Volume Contents 1991

NUMBER 1

	i	Contents in Softstrip format
	iii	Tetrahedron Prize for Creativity in Organic Chemistry
	v	Contributors to this issue
	vii	Graphical Abstracts
William K. Berlin, Wen-Sheng Zhang and **T. Y. Shen**	1	Glycosyl-inositol derivatives—III. Synthesis of hexosamine-inositol-phosphates related to putative insulin mediators
Jeff E. Cobb and **M. Ross Johnson**	21	Synthesis of 6-*O*-(2-aminoethyl)-D,L-*myo*-inositol-1,2-cyclic phosphate: a model of a putative insulin second messenger
Shinsaku Fujita	31	Promolecules for characterizing stereochemical relationships in non-rigid molecules
Didier Barbry, Damien Spanneut, Bruno Hasiak and **Daniel Couturier**	47	Study of the reaction of sodium amide in liquid ammonia with hexahydro-(1H)-2-benzazoninium salts: access to 2-aza-(7)-metacyclophanes
Thierry Aubert, Michel Farnier and **Roger Guilard**	53	Reactivity of iminophosphoranes towards some symmetrical dicarbonyl dichlorides: syntheses and mechanisms
D. Fréchet, M. Danzer, F. Debu, B. Monegier du Sorbier, D. Reisdorf, C. Snozzi and **M. Vuilhorgne**	61	Structure elucidation of RP 63834 a new macrocyclic lactone antibiotic
Mustafa Abbari, Paul Cosquer, François Tonnard, Yeung Yat Cheng Yeung Lam Ko and **Robert Carrié**	71	Diels-Alder reactions of P-chloro (bistrimethylsilyl) methylene phosphine
Antonio Cipiciani and **Stefania Primieri**	83	Catalysis by zwitterionic micelles in aromatic nucleophilic substitution reaction
Andrés García-Granados, Antonio Martínez, Mª Esther Onorato, Francisco Rivas and **Jose María Arias**	91	Chemical-microbiological synthesis of 6β-eudesmanolides by *Curvularia lunata* cultures from eudesmanes with functions at C-1 and C-6
Diego Colombo, Fiamma Ronchetti and **Lucio Toma**	103	Enzymic acylation of sugars. Rationale of the regioselective butyrylation of secondary hydroxy groups of D- and L-galacto and mannopyranosides
Helen Burgess and **John A. Donnelly**	111	The reactions of halogenated phenylnitromethanes with triethyl phosphite

Athelstan L. J. Beckwith, Vincent W. Bowry and **Carl H. Schiesser** — 121 Ring closure of the 6-methylenecyclodecyl radical

Antony J. Fairbanks, George W. J. Fleet, Aled H. Jones, Ian Bruce, Samer Al Daher, Isabelle Cenci di Bello and **Bryan Winchester** — 131 Synthesis from a heptonolactone and effect on glycosidases of (1*S*,2*R*,6*R*,7*S*)-1,2,6,7-tetrahydroxypyrrolizidine

Thomas V. Lee, John R. Porter and **Frances S. Roden** — 139 The use of a combined annulation-ring cleavage strategy for the novel synthesis of seven, eight and nine-membered rings

N. Iranpoor and **J. Owji** — 149 Efficient, mild, and regioselective conversion of thiiranes to alkoxy and acetoxy disulphides and dithianes with Ce(IV) based oxidants

Jack E. Baldwin, Mark G. Moloney and **Andrew F. Parsons** — 155 Enantioselective synthesis of kainoid analogues by cobalt-mediated cyclisations

I Instructions to Contributors

NUMBER 2

i Contents in Softstrip format

iii Tetrahedron Prize for Creativity in Organic Chemistry

v Contributors to this issue

vii Graphical Abstracts

Bang-Chi Chen, Michael C. Weismiller, Franklin A. Davis, Diane Boschelli, James R. Empfield and **Amos B. Smith, III** — 173 Enantioselective synthesis of (+)-kjellmanianone

J. Hodge Markgraf, Howard A. Davis, Peter S. Ernst, Kevin S. Hirsch, Kathryn J. Leonard, Marlene E. Morrison and **Christopher R. Myers** — 183 Strained heterocyclic systems—XIX. 1-Azatriptycene and derivatives

Kuo Long Yu, Sheetal Handa, Raymond Tsang and **Bert Fraser-Reid** — 189 Carbohydrate-derived partners display remarkably high stereoselectivity in aldol coupling reactions

Johannes C. Jochims, Michael O. Glocker, Josef Hofmann and **Helmut Fischer** — 205 N-Acyliminium salts from the reaction of nitrilium salts with aldehydes

Bernhard Irrgang and **Herbert Mayr** — 219 Additions of carbenium ions to nonconjugated dienes. The retarding (–I)-effect of the second double bond

Josette Bastard, Duc Do Khac, Marcel Fetizon, Chantal Prevost and **Jean-Claude Beloeil** — 229 Mechanism of the rearrangement of the bicylo [4.2.0] octan system to the bicyclo [3.2.1] octan system

Bernard Loubinoux et **Philippe Gerardin** — 239 Protection des acides par les groupements ABz; utilisation en synthèse peptidique

A. Solladié-Cavallo, N. Khiar, J. Fischer and **A. DeCian**	249	Configuration and conformation of (–)-8-phenylmenthyl 3-amino-2-hydroxy-5-methylhexanoate
Eric Frérot, Jacques Coste, Antoine Pantaloni, Marie-Noëlle Dufour and **Patrick Jouin**	259	PyBOP® and PyBroP: two reagents for the difficult coupling of the α,α-dialkyl amino acid, Aib
Ferenc Sóti, Mária Kajtár-Peredy, Gábor Keresztury, Mária Incze, Zsuzsanna Kardos-Balogh and **Csaba Szántay**	271	Synthesis of vinca alkaloids and related compounds—LV. Synthesis of (±)-desmethoxycuanzine
P. Tarakeshwar, Javed Iqbal and **S. Manogaran**	297	Stereoselective synthesis of substituted tetrahydrofurans—identification and analysis by proton NMR and MNDO, MM2 calculations
Laxminarayan Bhat, Abraham Thomas, Hiriyakkanavar Ila and **Hiriyakkanavar Junjappa**	305	Studies on lead tetraacetate oxidation of α-oxoketene dithioacetals
Francisco Alonso and **Miguel Yus**	313	Reactivity of 3,6-dimethoxy-3,6-dimethylcyclohexa-1,4-diene—II. Regioselective arylation of electron-rich aromatic compounds
T. Popović, Lea Sokolić, Nevenka Modrić, A. Palković and **M. Poje**	317	Synthesis and structure of dehydro-4-iminoallantoin and its covalent adducts
Nigel S. Simpkins	323	Synthesis of homoallylic sulphides and selenides by Lewis acid mediated diplacement reactions of sulphones
Carlo Dell'Erba, Marino Novi, Giovanni Petrillo, Cinzia Tavani and **Paolo Bellandi**	333	Arylation of potassium 2,4-pentanedionate via $S_{RN}1$ on diazosulfides
	I	Instructions to Contributors

NUMBER 3

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
Ei-ichi Negishi, Takao Yoshida, Akiva Abramovitch, George Lew and **Robert M. Williams**	343	Highly stereoselective syntheses of conjugated *E,E*- and *E,Z*-dienes, *E*-enynes and *E*-1,2,3-butatrienes via alkenylborane derivatives
Yizhen Sun, Arthur E. Martell, Joseph H. Reibenspies and **Michael J. Welch**	357	Syntheses of multidentate ligands containing hydroxypyridyl donor groups
Vasu Nair and **David F. Purdy**	365	Synthetic approaches to new doubly modified nucleosides: congeners of cordycepin and related 2'-deoxyadenosine
Mary A. Amputch and **R. Daniel Little**	383	Electroreductive cyclization reactions: attempts to use 2(5H)-furanones (α,β-unsaturated butenolides). Dominance of acid-base over cyclization chemistry

M. Vincens, J. T. Grimaldo-Morön and **M. Vidal**	403	Synthèse de tétra oxydes de phosphine macrocycliques à partir des bisphosphoniums bis oxydes de phosphine corréspondants. Notion de protéction de pont
C. Selve, J.-C. Ravey, M.-J. Stebe, C. El Moudjahid, E. M. Moumni and **J.-J. Delpuech**	411	Monodisperse perfluoro-polyethoxylated amphiphilic compounds with two-chain polar head—preparation and properties
V. Levacher, R. Benoit, J. Duflos, G. Dupas, J. Bourguignon and **G. Queguiner**	429	Broadening in the scope of NADH models by using chiral and non chiral pyrrolo [2,3-*b*] pyridine derivatives
T. Mallát, Zs. Bodnár and **J. Petró**	441	Reduction by dissolving bimetals
L. I. Belen'kii, D. B. Brokhovetskii and **M. M. Krayushkin**	447	Reductive condensation of trichloromethylarenes with hydroxylamine and hydrazines in pyridine
J. E. Baldwin, M. Bradley, R. M. Adlington, W. J. Norris and **N. J. Turner**	457	Further evidence for the involvement of a monocyclic β-lactam in the enzymatic conversion of δ-L-α-aminoadipoyl-L-cysteinyl-D-valine into isopenicillin N
A. Srikrishna and **G. Sundarababu**	481	Radical cyclization strategies to terpenoids: syntheses of (±)-β-cuparenone, (±)-laurene and epilaurenes
Neil R. Thomas and **David Gani**	497	Synthesis of (2*R*)- and (2*S*)-[1-^{13}C]-2-amino-2-methylmalonic acid: chiral substrates for serine hydroxymethyltransferase
Angela M. Equi, Alison M. Brown, Alan Cooper, Surjit K. Ner, Allan B. Watson and **David J. Robins**	507	Oxidation of putrescine and cadaverine derivatives by diamine oxidases
G. V. M. Sharma and **Sreenivasa Rao Vepachedu**	519	Stereoselective synthesis of (–)-canadensolide from D-glucose
George W. J. Fleet, Julio A. Seijas and **M. Pilar Vázquez-Tato**	525	Synthesis of the necine base platynecine from glucose
	I	Instructions to Contributors

NUMBER 4/5

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 42

SYNTHETIC APPLICATIONS OF ANODIC OXIDATIONS

Guest Editors: J. S. SWENTON and G. W. MORROW*

The Ohio State University, Columbus, Ohio, USA
*The University of Dayton, Dayton, Ohio, USA

	i	Contents in Softstrip format
	iii	Contributors to this issue
	xi	Announcement: *Tetrahedron* Symposia-in-Print
	xv	Preface
	xvii	Graphical Abstracts
Miwako Mori, Katsuji Kagechika, Hiroaki Sasai and **Masakatsu Shibasaki**	531	New synthesis of 4-acetoxy-2-azetidinones by use of electrochemical oxidation
Hiroyoshi Yamazaki, Hiroshi Horikawa, Takashi Nishitani, Tameo Iwasaki, Kimio Okamura and **Tadamasa Date**	541	A two-step synthesis of 2-*exo*-substituted 2-*endo*-amino-norbornenes from 2-acetamidonorbornene-2-carboxylic acids
Norbert Muller	549	Electrochemical synthesis of *cis*-3,4-bis(2,2,2-trifluoroethyl)pyrrolidine
Kenji Uneyama	555	Electrochemical trifluoromethylation of olefins; product-selectivity and mechanistic aspects
Apostolos Papadopoulos, Burhansha Lewall, Eberhard Steckhan, Klaus-Dieter Ginzel, Falk Knoch and **Martin Nieger**	563	Anodic oxidation of *N*-acyl and *N*-alkoxycarbonyl dipeptide esters as a key step for the formation of chiral heterocyclic synthetic building blocks
Lars-G. Wistrand and **Marco Skrinjar**	573	Chirospecific synthesis of *trans*-2,5-disubstituted pyrrolidines via stereoselective addition of organocopper reagents to *N*-acyliminium ions
Kevin D. Moeller, Scott L. Rothfus and **Poh Lee Wong**	583	Anodic amide oxidations: fundamental studies concerning the annulation of six- and seven-membered rings onto amines
Tatsuya Shono, Tetsuo Nozoe, Hirofumi Maekawa, Yoshihide Yamaguchi, Shinya Kanetaka, Haruhisa Masuda, Toshio Okada and **Shigenori Kashimura**	593	Anodic oxidation of cycloheptatriene systems and its application to the synthesis of non-benzenoid aromatic compounds

M. Carmen Carreño, José L. García Ruano, José M. Mata and **Antonio Urbano**	605	General synthesis of chiral 2-*p*-tolylsulfinylquinones
Jun-ichi Yoshida, Shin-ichiro Matsunaga, Toshiki Murata and **Sachihiko Isoe**	615	New one carbon homologation reagents utilizing electrochemical oxidation of organosilicon compounds
Toshio Fuchigami, Kayoko Yamamoto and **Akinori Konno**	625	Electrolytic reactions of fluoro organic compounds—VIII. Further study on anodic methoxylation and acetoxylation of aryl fluoroalkyl sulfides
Shosuke Yamamura, Yoshikazu Shizuri, Hideyuki Shigemori, Yoshishige Okuno and **Mitsuru Ohkubo**	635	Natural products syntheses using anodic oxidation of phenols as a key step
Anton Rieker, Rudolf Beisswenger and **Klaus Regier**	645	Syntheses via anodically produced phenoxenium ions. Applications in the field of peptides and carbohydrates
Gary W. Morrow, Ying Chen and **John S. Swenton**	655	Intramolecular cyclization of 2′-olefinic side-chains on anodically oxidized 4-phenylphenols. The effect of olefin substituents on carbon-carbon bond formation
Sigeru Torii, Hiroshi Okumoto and **Long He Xu**	665	A convenient approach to 1,4-dihydro-4-oxo-3-quinoline carboxylates by electro-oxidative formation of enamine moiety
Mustafa Gullu, Liaquat A. Razack, James H. P. Utley, Ronald J. King and **G. Ray White**	675	Electro-organic reactions—XXXV. Efficient carbon-oxygen bond formation in the anodic coupling of pyridopyrimidine derivatives
Kristin L. Swanson, Kevin M. Snow, D. Jeyakumar and **Kevin M. Smith**	685	Tetrapyrrole products from electrochemical cyclization of 1′,8′-disubstituted-*a,c*-biladiene salts
Joseph E. Toomey, Jr. and **Gregory A. Chaney**	697	Anodic oxidation of 2-picoline
Jan H. H. Meurs and **Wolf Eilenberg**	705	Oxidative fluorination in amine-HF mixtures
Hans J. Schäfer and **Roy Schneider**	715	Oxidation of partially protected carbohydrates at the nickel hydroxide electrode
Fritz Beck, Bernd Wermeckes and **Wolfgang Janßen**	725	Anodic oxidation of isoalkylethers in aqueous electrolytes
R. Holze and **C. H. Hamann**	737	Electrosynthetic aspects of anodic reactions of anilines and indoles
Masao Tokuda, Tohru Miyamoto, Hirotake Fujita and **Hiroshi Suginome**	747	Stereoselective synthesis of 4- or 5-substituted 2-benzyl- and 2-benzoylpyrrolidines by means of anodic oxidation of δ-alkenylamines
Sandor Karady, Edward G. Corley, Newton L. Abramson, Joseph S. Amato and **Leonard M. Weinstock**	757	Cyclization of electrochemically generated nitrogen radicals. A novel synthesis of 11-substituted dibenzo[*a,d*]cycloheptenimine derivatives

Hidenobu Ohmori, Hatsuo Maeda, Masayuki Kikuoka, Toshihide Maki and **Masaichiro Masui**	767	Electrochemical generation and reactions of acyloxytriphenylphosphonium ions
Christian Amatore, Touriya El Moustafid, Christian Rolando, André Thiébault and **Jean-Noël Verpeaux**	777	Coupling between radical and anion in the outersphere oxidation of α-sulfonyl carbanions. Its role on the product distribution between dimeric olefin and disulfone
Jean-Marc Chapuzet and **Jacques Simonet**	791	The anodic trimerization of aromatic orthodiethers: new developments
Michel Cariou	799	Anodic oxidation of diarylacetylenes and diaryldiacetylenes: electrosynthesis of diaroyl-stilbenes and acetylenic α-and γ-diketones
J. P. Coleman, R. C. Hallcher, D. E. McMackins, T. E. Rogers and **J. H. Wagenknecht**	809	A practical system for manganese(III)-mediated electrochemical synthesis of sorbic acid precursors
Ryushi Shundo, Ikuzo Nishiguchi, Yoshiharu Matsubara and **Tsuneaki Hirashima**	831	Carbon-carbon bond formation using manganese(III) acetate as an electrochemical mediator
Sotaro Ito, Mikio Iwata and **Kazuo Sasaki**	841	Duet electrosynthesis of *p*-benzoquinone from benzene
Marcelo Navarro, Wagner F. De Giovani and **José R. Romero**	851	Selectivity in catalytic diol electrooxidation using a polypyridine Ru(IV) complex
R. Vukićević, S. Konstantinović and **M. Lj. Mihailović**	859	Electrochemical cyclization of unsaturated hydroxy compounds. Phenylselenoetherification and phenylselenolactonization
Makoto Kimura, Shinichi Matsubara, Yasushi Yamamoto and **Yasuhiko Sawaki**	867	Electrooxidative C-S cleavages as a neutral deprotection for carboxylic acids
G. Sanchez-Cano, V. Montiel and **A. Aldaz**	877	Synthesis of L-cysteic acid by indirect electrooxidation and an example of paired synthesis: L-cysteic and L-cysteine from L-cystine
Akinori Konno, Kouta Fukui, Toshio Fuchigami and **Tsutomu Nonaka**	887	Anodic generation of polybromochloride ions and their utilization as precisely-controlled oxidizing reagents for ex-cell indirect electrooxidation of alcohols
Gennady I. Nikishin, Michail N. Elinson and **Irina V. Makhova**	895	Electrochemical oxidation of ketones in methanol in the presence of alkali metal bromides
	I	Instructions to Contributors

NUMBER 6

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

907 Corrigenda

TETRAHEDRON REPORT NUMBER 283

Ulrich T. Mueller-Westerhoff, Blake Vance and **Dong Ihl Yoon** — 909 The synthesis of dithiolene dyes with strong Near-IR absorption

---

Robert J. Smith, Belaid Mahiou and **Max L. Deinzer** — 933 Hydrolysis products of humulene diepoxide A

Adriana B. Pierini, Ana N. Santiago and **Roberto A. Rossi** — 941 Strain energy effect on the reactivity of bridgehead halides in electron transfer reactions

Hossein A. Dabbagh, Boris Franzus, Thomas T.-S. Huang and **Burtron H. Davis** — 949 Deuterium isotope studies of the dehydration alcohols by reaction with triphenylphosphine-tetrachloromethane

Alan P. Marchand, Teng-Ko Ngooi, William H. Watson and **Ram P. Kashyap** — 961 *Endo*-tricyclo[6.2.1.$0^{2,7}$]undec-9-ene-3,6-dione: a versatile synthetic intermediate

Clark N. Eid, Jr. and **Joseph P. Konopelski** — 975 Acylketene acetals in organic synthesis

Serge Geribaldi et **Michel Rouillard** — 993 Réaction de Wittig-Horner entre phosphonates et cyclohexénones β-substituées

Joëlle Dubois, Christine Fourès, Sonia Bory, Serge Falcou, Michel Gaudry and **Andrée Marquet** — 1001 Synthesis of 5,5′-dihydroxyleucine and 4-fluoro 5,5′-dihydroxyleucine, the reduction products of 4-carboxyglutamic and 4-carboxy-4-fluoroglutamic acids

Raffaello Müller, Wolfgang von Philipsborn, Leah Schleifer, Pinchas Aped and **Benzion Fuchs** — 1013 Structure, conformation, and stereoelectronics of 1,4,5,8-tetraazadecalins. Chemical, multinuclear NMR and molecular mechanics studies

A. Gołębiowski and **J. Jurczak** — 1037 High-pressure [4+2] cycloaddition of 1-methoxy-1,3-butadiene to *N,O*-protected D-threoninals and D-*allo*-threoninals

A. Gołębiowski and **J. Jurczak** — 1045 The cyclocondensation reaction of 1-benzoyloxy-2-*tert*-butyldimethylsilyloxy-4-methoxy-1,3-butadiene with *N,O*-protected D-threoninals and D-*allo*-threoninals

Adam Gołębiowski, Jerzy Raczko, Ulla Jacobsson and **Janusz Jurczak** — 1053 Influence of *N*-protecting groups on the stereochemical course of [4+2] cycloaddition of activated dienes to α-amino aldehydes

Nativitat Valls, Víctor M. Segarra, Luisa C. Maillo and **Joan Bosch** — 1065 Synthesis of 15-azayohimban, a new heterocyclic ring system

Vidhya Gopalakrishnan, K. N. Ganesh, Anita Gunjal and **S. M. Likhite** 1075 Spectroscopic and enzymatic characterization of 2′-5′ and 3′-5′ RNA hexamers AACCUU synthesised by phosphotriester approach in solution using 2′-*t*-butyldimethylsilyl protection

Renato Dalpozzo, Loris Grossi and **Fabio Ganazzoli** 1091 Reaction of *t*-butylmagnesium chloride with 1,4-dinitrobenzene

William G. Prowse, Katherine I. Arnot, Josef A. Recka, Ronald H. Thomson and **James R. Maxwell** 1095 The quincyte pigments: fossil quinones in an Eocene clay mineral

I Instructions to Contributors

NUMBER 7

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 284

Robert V. Hoffman 1109 Synthetic transformations using arenesulfonyloxy groups, first as electrophiles, then as leaving groups

---

Michael Kahn and **Kagari Fujita** 1137 Enantiospecific routes to 3,4 disubstituted azetidinones

Sowmianarayanan Ramaswamy and **Allan C. Oehlschlager** 1145 Chemico-microbial syntheses of Japanese beetle and mosquito oviposition pheromones

Sowmianarayanan Ramaswamy and **Allan C. Oehlschlager** 1157 Chemico-enzymatic syntheses of racemic and chiral isomers of 7-methyl-1,6-dioxaspiro[4.5]decane

Reijo Aksela and **Allan C. Oehlschlager** 1163 Stannylmetallation of conjugated enynes

Sunaina Sharma and **Allan C. Oehlschlager** 1177 Evidence for intermediate π-complexes in the addition of trialkylsilyl and trialkylstannylcuprates to α,β-unsaturated enones

Hao H. Sun, Sue S. Cross, Malika Gunasekera and **Frank E. Koehn** 1185 Weinbersterol disulfates A and B, antiviral steroid sulfates from the sponge *Petrosia weinbergi*

Akira Suga, Toru Sugiyama, Masami Otsuka, Masaji Ohno, Yukio Sugiura and **Kenji Maeda** 1191 Oxidation of alkenes by a chiral non-porphyrinic oxidizing catalyst based on the bleomycin-Fe(II) complex

Jürgen Martens und **Stefan Lübben** 1205 Enantiomerenreine bicyclische Pyrrolidin-Derivate: Herstellung und Verwendung in asymmetrischen Synthesen

D. Grandjean, P. Pale and **J. Chuche** 1215 Enzymatic hydrolysis of cyclopropanes. Total synthesis of optically pure Dictyopterenes A and C′

Yves Bessard and **Manfred Schlosser** 1231 Catalytic hydrogenolysis of cyclopropanes: metal insertion into a saturated carbon-carbon bond as the key step

Ivan A. Natchev	1239	Organophosphorus analogues and derivatives of the natural L-aminocarboxylic acid and peptides—VII. Enzyme synthesis of phospha-C peptides
G. H. Kulkarni, R. H. Naik, S. K. Tandel and **S. Rajappa**	1249	Contra-thermodynamic *trans*-esterification of carbamates by counter-attack strategy: a viable non-phosgene, non-MIC route to carbamate pesticides
Eli Breuer, Muhammad Safadi, Michael Chorev, Adam Vincze and **Peter Bel**	1257	Synthesis and characterization of amino protected peptides derived from amino-α-hydroxyiminophosphonates
Csaba Szántay, Jr., Mihály Balázs, Hedvig Bölcskei and **Csaba Szántay**	1265	Synthesis of vinca alkaloids and related compounds—LVI. 15′,20′-Anhydrovinblastine borane complex. Structural investigations using NMR methods
Andrew Pelter, Robert S. Ward, Revuru Venkateswarlu and **Chakicherla Kamakshi**	1275	Oxidative transformations of lignans—reactions of dihydrocubebin and a derivative with DDQ
Dario Landini and **Angelamaria Maia**	1285	Effect of the anion hydration state on the selectivity coefficients ($K_{Y/X}^{sel}$) of quaternary onium salts under phase-transfer catalysis conditions
Angel Messeguer, Francisco Sánchez-Baeza, Josefina Casas and **Bruce D. Hammock**	1291	Use of dimethyldioxirane in the preparation of epoxy derivatives related to insect juvenile hormones
Paul R. Giles and **Charles M. Marson**	1303	Oxidative formylation and chloromethylation in Vilsmeier reactions of *O*- and *S*-heterocyclic ketones
Dearg S. Brown, Philippe Charreau, Thomas Hansson and **Steven V. Ley**	1311	Substitution reactions of 2-phenylsulphonyl-piperidines and -pyrrolidines with carbon nucleophiles: synthesis of the pyrrolidine alkaloids Norruspoline and Ruspolinone
Dearg S. Brown, Steven V. Ley, Sadie Vile and **Mervyn Thompson**	1329	Use of 2-phenylsulphonyl cyclic ethers in the preparation of tetrahydropyran and tetrahydrofuran acetals and in some glycosidation reactions
	I	Instructions to Contributors

NUMBER 8

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
		TETRAHEDRON REPORT NUMBER 285
Edward L. Clennan	1343	Synthetic and mechanistic aspects of 1,3-diene photooxidation
Hiromitsu Takayama, Chada Phisalaphong, Mariko Kitajima, Norio Aimi and **Shin-ichiro Sakai**	1383	An efficient synthetic pathway to the macroline-type indole alkaloids, talcarpine and alstonerine from ajmaline
Wolfgang Holzer	1393	NOE difference spectroscopy as a versatile tool for spectral and structural assignment in various N-1 substituted pyrazoles

Gabriele M. König, Anthony D. Wright and **Otto Sticher**	1399	New xenicane and hydroazulenoid diterpenes from an Australian collection of *Dictyota divaricata*
Emmanuelle Samson, Katja Frischmuth, Ulrich Berlage, Uwe Heinz, Kurt Hobert and **Peter Welzel**	1411	Synthesis of (+)-strigol, (+)-4′-*epi*-strigol, and their enantiomers
Barbara Rys, Helmut Duddeck and **Monika Hiegemann**	1417	Conformational analysis of benzoanellated nine-membered rings—I. 1,4,5,7-Tetrahydro-3*H*-2,6-benzodithionin derivatives
William Moneta, Paul Baret, Jean-Pierre Dutasta et **Jean-Louis Pierre**	1425	Etude en solution d'un iminocyclophane macrocyclique porteur de quatre groupements méthoxyles convergents: oligomérisation spontanée et réversible et absence d'épimérisation
Kun I. Sutowardoyo, Mohamed Emziane, Paul Lhoste and **Denis Sinou**	1435	Highly regio and chemoselective ring opening of epoxides with trimethylsilyl azide in the presence of aluminium isopropoxide and titanium isopropoxide
B. Vigne, A. Archelas and **R. Furstoss**	1447	Microbial transformations—XVIII. Regiospecific *para*-hydroxylation of aromatic carbamates mediated by the fungus *Beauveria sulfurescens*
Alain Beck, Denis Heissler and **Guy Duportail**	1459	Synthesis of fluorescent probes for localized membrane fluidity measurements
Sujit N. Mazumdar and **Mohinder P. Mahajan**	1473	[4+2] Cycloaddition reactions of various 1,3-diaza-1,3-butadienes with ketenes
Carlo Canepa, Sandra Cobianco, Iacopo Degani, Antonella Gatti and **Paolo Venturello**	1485	Effect of the cation in the regioselectivity control in reactions of 3,3-dichloroallyl metals with substituted benzaldehydes
J. H. M. Lange, A. J. H. Klunder and **B. Zwanenburg**	1495	Synthesis, [3,3]-sigmatropic rearrangement and electrophilic behavior of angularly alkylated 2-carbethoxy-tricyclo[5.2.1.$0^{2,6}$]-decadienones
J. H. M. Lange, A. J. H. Klunder and **B. Zwanenburg**	1509	Thermal generation of 2-alkyl-3-carbethoxy-cyclopentadienones from angularly alkylated tricyclo[5.2.1.$0^{2,6}$]decadienones. Their use in the synthesis of cyclopentenoids and dihydrosarkomycins
A. Arcadi, E. Bernocchi, S. Cacchi and **F. Marinelli**	1525	β-Vinyl-γ-butyrolactones via the palladium-catalysed reaction of vinyl triflates with *Z*-2-buten-1,4-diol
Pál Herczegh, Imre Kovács and **Ferenc J. Sztaricskai**	1541	Tartraldehydes—II. Synthesis of D- and L-diginose and D- and L-sarmentose
G. H. Veeneman, G. A. Van Der Marel, H. Van Den Elst and **J. H. Van Boom**	1547	An efficient approach to the synthesis of thymidine derivatives containing phosphate-isosteric methylene acetal linkages
	I	Instructions to Contributors

NUMBER 9

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 286

Yu. I. Matveyev, V. I. Gorbatenko and **L. I. Samarai** 1563 1,1-Dihaloalkyl heterocumulenes: synthesis and reactions

---

Anne Pautard-Cooper and **Slayton A. Evans, Jr.** 1603 The regioselective and stereospecific substitution of unsymmetrical 1,2-diols using the 1,3,2λ^5-dioxaphospholane methodology

Brian Morgan, Allan C. Oehlschlager and **Thomas M. Stokes** 1611 Enzyme reactions in apolar solvents. The resolution of branched and unbranched 2-alkanols by porcine pancreatic lipase

Anil K. Jhingan and **Thomas Meehan** 1621 Formation of a nitrile via zinc iodide-catalyzed opening of a bay-region polycyclic aromatic hydrocarbon epoxide by trimethylsilyl cyanide

Guoqiang Shi, Yuanyao Xu and **Ming Xu** 1629 Carbenoid entry into trifluoromethylated molecules: preparation of functionalized CF_3-containing γ,δ-unsaturated carboxylic esters by rhodium-catalyzed reaction of ethyl 3,3,3-trifluoro-2-diazopropionate with allylic sulfides and their further facile conversion to trifluoromethylated conjugated dienoic esters

Takeshi Kitahara, Hiromasa Kiyota, Hitoshi Kurata and **Kenji Mori** 1649 Synthesis of oxygenated eremophilanes, gigantenone, phomenone and phaseolinone, phytotoxins from pathogenic fungi

René Csuk and **Brigitte I. Glänzer** 1655 Methylenation of aldonolactones

Soumia Lafquih Titouani, Mohammed Soufiaoui, Loïc Toupet, Michel Vaultier et **Robert Carrié** 1665 Carbénation et époxydation de 1-indanones 1′-spiro 3′-cyclohexène et de 1-tétralones 1′-spiro 3′-cyclohexène

A. Alexakis, I. Marek, P. Mangeney and **J. F. Normant** 1677 Diastereoselective *syn* or *anti* opening of propargylic epoxides. Synthesis of α-allenic alcohols

Jan Epsztajn, Adam Bieniek and **Justyna A. Kowalska** 1697 Application of organolithium and related reagents in synthesis—IX. Synthesis and metallation of 4-chloropicolin- and 2-chloroisonicotinanilides. A useful method for preparation of 2,3,4-trisubstituted pyridines

Alwyn G. Davies and **Carl H. Schiesser** 1707 A PM3 study of the reactions of propene with singlet oxygen and other enophiles

Sophie Huss, Federico G. De las Heras and **María José Camarasa** 1727 Synthesis of 3′-*C*-ethynylnucleosides of thymine

Santiago V. Luis and **M. Isabel Burguete** 1737 The Fischer indole synthesis of 8-methyl-5-substituted-1-oxo-β-carbolines: a remarkable high yield of a [1,2]-methyl migration

Ganesh Pandey, Dinah Pooranchand and **U. T. Bhalerao** 1745 Photoinduced single electron transfer activation of organophosphines: nucleophilic trapping of phosphine radical cation

W. A. W. Stolle, A. T. M. Marcelis and H. C. van der Plas 1753 A computational study towards the reactivity of 2-(2-ethynylphenyl-X-)pyrimidines in intramolecular Diels-Alder reactions

I Instructions to Contributors

NUMBER 10/11

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 287

Julian Adams and Denice M. Spero 1765 Rhodium(II) catalyzed reactions of diazo-carbonyl compounds

---

Katharina E. Kassühlke and D. John Faulkner 1809 Two new dibromotyrosine derivatives from the Caribbean sponge *Pseudoceratina crassa*

Brad K. Carte', Steven Carr, Charles DeBrosse, Mark E. Hemling, Laurie MacKenzie, Priscilla Offen and David E. Berry 1815 Aciculatin, a novel flavone-C-glycoside with DNA binding activity from *Chrysopogon aciculatis*

Derek H. R. Barton, Takashi Okano and Shyamal I. Parekh 1823 On the reactions of benzeneseleninic anhydride with monosubstituted hydrazones. Evidence for radical pathways

Yuichi Hashimoto, Takayoshi Ishizaki and Koichi Shudo 1837 A multi-centered electrophile formed from a unique bioactive cyclic hydroxamic acid, 4-hydroxy-7-methoxy-2H-1,4-benzoxazin-3(4H)-one

Toshio Tanaka, Kiyoshi Bannai, Atsuo Hazato, Masahiro Koga, Seizi Kurozumi and Yoshinori Kato 1861 Short synthesis of isocarbacyclin by regioselective S_N2' alkylation of bicyclic allylic esters with zinc-copper reagents

Takao Sakamoto, Yoshinori Kondo, Akito Yasuhara and Hiroshi Yamanaka 1877 Condensed heteroaromatic ring systems—XVIII. Palladium-catalyzed cross-coupling reaction of aryl bromides with (*Z*)-1-ethoxy-2-tributylstannylethene and its utilization for construction of condensed heteroaromatics

Hans-Eckart Radunz, Volker Eiermann, Günther Schneider and Angelika Riethmüller 1887 A convenient approach to hydroxyethylene dipeptide isosteres as building blocks for enzyme inhibitors

Klaus Th. Wanner und Georg Höfner 1895 Chelat- und nicht-chelat-kontrollierte Reduktionen von β-Amidoketonen: Synthese nicht-racemischer 1,3-Aminoalkohole mit Pyrrolidinstruktur

Lucia Zetta, Artur Wolff, Walter Vogt, Karl-Ludwig Platt and Volker Böhmer 1911 Asymmetrically substituted calix[4]arenes; a two-dimensional ^1H NMR study of a tetraester derivative in the cone-conformation

Manfred Haber and **Ulf Pindur** 1925 *N*-Benzoylindole-2,3-quinodimethane: Diels-Alder reactivity and synthetic applications for [*b*]annellated indoles

Francesca Clerici, Donato Pocar and **Antonella Rozzi** 1937 N-Sulfonylamidines—III. A new rearrangement reaction of N-alkylsulfonyl-amidines: synthesis of enamines, β-aminosulfonyl-enamines and 4H-thiazete-S,S-dioxides

Francesc R. Trull and **David A. Lightner** 1945 Synthesis of dipyrrinone esters using carbodiimide reagents

M. I. Ismail 1957 Polarographic reduction of pyrylium salts

Roberto Spogliarich, Erica Farnetti and **Mauro Graziani** 1965 Effect of charge distribution on selective hydrogenation of conjugated enones catalyzed by iridium complexes

Giancarlo Doddi, Gianfranco Ercolani and **Paolo Mencarelli** 1977 Synthesis and conformational aspects of corands incorporating pyrylium, thiopyrylium and pyridine subunits

James J. DeVoss, Joanne F. Jamie, Joanne T. Blanchfield, Mary T. Fletcher, Michael G. O'Shea and **William Kitching** 1985 Mercury(II)-mediated routes to some side-chain functionalised 1,7-dioxaspiro[5.5]undecanes. Applications of Luche-Barbier chemo-selective addition to ketoaldehydes

M. J. Aurell, S. Gil, M. Parra, A. Tortajada and **R. Mestres** 1997 Iodine oxidative coupling of diene and triene-diolates of unsaturated carboxylic acids

Karel M. J. Brands, Arthur A. P. Meekel and **Upendra K. Pandit** 2005 Synthesis of the homochiral 'tricyclic heart' of manzamine A

Yashwant D. Vankar, Anita Bawa and **G. Kumaravel** 2027 Reaction of 2-nitro and 3-nitro-2-cyclohexenone acetals: preparation of useful intermediates

P. A. A. Klusener, L. Tip and **L. Brandsma** 2041 On the direct metalation of isoprene

I Instructions to Contributors

NUMBER 12/13

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

William R. Dolbier, Jr., Suk Kyu Lee and **Otto Phanstiel IV** 2065 The *in situ* generation and trapping of some fluorine-substituted ketenes

Marcia de Carvalho, Marina T. Okamoto, Paulo José Samenho Moran and **J. Augusto R. Rodrigues** 2073 Baker's yeast reduction of α-haloacetophenones

Ajoy K. Banerjee, Julio C. Acevedo, Rosana González and **Aníbal Rojas**	2081	Acid induced rearrangement of β,γ-unsaturated ketones
Shmuel Carmeli, Richard E. Moore and **Gregory M. L. Patterson**	2087	Mirabimides A-D, new N-acylpyrrolinones from the blue-green alga *Scytonema mirabile*
Carlos Jiménez and **Phillip Crews**	2097	Novel marine sponge derived amino acids—XIII. Additional psammaplin derivatives from *Psammaplysilla purpurea*
Masao Kawai, Toichi Ogura, Yasuo Butsugan, Tooru Taga and **Mitsuo Hayashi**	2103	Benzilic acid rearrangement-type reaction of physalins to neophysalins. Structural revision of one of the dehydration products of physalin A
Shigeru Mio, Reiji Ichinose, Kuniko Goto, Soji Sugai and **Sadao Sato**	2111	Synthetic studies on (+)-hydantocidin—I. A total synthesis of (+)-hydantocidin, a new herbicidal metabolite from microorganism
Shigeru Mio, Mikiko Shiraishi, Soji Sugai, Hideyuki Haruyama and **Sadao Sato**	2121	Synthetic studies on (+)-hydantocidin—II. Aldol addition approaches toward the stereoisomers of (+)-hydantocidin
Shigeru Mio, Yuko Kumagawa and **Soji Sugai**	2133	Synthetic studies on (+)-hydantocidin—III. A new synthetic method for construction of the spiro-hydantoin ring at the anomeric position of D-ribofuranose
Shigeru Mio, Masumi Ueda, Masae Hamura, Junko Kitagawa and **Soji Sugai**	2145	Synthetic studies on (+)-hydantocidin—IV. Synthesis of stereoisomers of (+)-hydantocidin
Haruki Niwa, Yoshifumi Yoshida, Takashi Hasegawa and **Kiyoyuki Yamada**	2155	Total synthesis of (±)-(*Z*)-9-(bromomethylene)-1,5,5-trimethylspiro[5.5]undeca-1,7-dien-3-one, a brominated sesquiterpene of the chamigrane type
Kenji Mori and **Hirosato Takikawa**	2163	A new synthesis of the enantiomers of ipsdienol, the pheromone of the *Ips* bark beetles
Isao Kitagawa, Nam Kyung Lee, Motomasa Kobayashi and **Hirotaka Shibuya**	2169	Marine natural products—XXV. Biologically active tridecapeptide lactones from the Okinawan marine sponge *Theonella swinhoei* (Theonellidae). Structure of theonellapeptolide Id
Masashi Tsuda, Masami Ishibashi, Kaori Agemi, Takuma Sasaki and **Jun'ichi Kobayashi**	2181	Stelliferins A-F, new antineoplastic isomalabaricane triterpenes from the Okinawan marine sponge *Jaspis stellifera*
Volker Jäger, Detlef Schröter and **Bernhard Koppenhoefer**	2195	Asymmetric Sharpless epoxidation of divinylcarbinol. *erythro*-D- And -L-4-pentenitols by hydrolysis of regioisomeric epoxy-4-pentenols
M. P. S. Ishar and **R. P. Gandhi**	2211	Photoaddition of benzophenone to allenic esters
Alessandro Casnati, Arturo Arduini, Eleonora Ghidini, Andrea Pochini and **Rocco Ungaro**	2221	A general synthesis of calix[4]arene monoalkyl ethers
Aija Parkkinen, Ferenc Fülöp and **Kalevi Pihlaja**	2229	Formation of 1,3-perhydrobenzoxazines and their N-methyl derivatives. A comparative study

J.-C. Wu, Z. Xi, C. Gioeli and **J. Chattopadhyaya**	2237	Intramolecular cyclization-trapping of carbon radicals by olefins as means to functionalize 2'- and 3'-carbons in β-D-nucleosides
Michael Mellor and **Susan E. Osbourn**	2255	An unexpected rearrangement of 4-bromo-2(3*H*)-benzothiazolones
Giuliana Cardillo, Mario Orena, Maurizio Penna, Sergio Sandri and **Claudia Tomasini**	2263	A new approach to the synthesis of enantiomerically pure 2,3-diaminoacids through chiral imidazolidin-2-ones
Aysel Öztunç, Sedat Imre, Hildebert Wagner, Manuel Norte, José J. Fernández and **Rafael González**	2273	A new haloether from *Laurencia* possessing a lauroxacyclododecane ring. Structural and conformational studies
Kaddour Lamara and **Robert K. Smalley**	2277	3*H*-Azepines and related systems—IV. Preparation of 3*H*-azepin-2-ones and 6*H*-azepino[2,1-*b*]quinazolin-12-ones by photo-induced ring expansions of aryl azides
A. F. Sviridov, V. S. Borodkin, M. S. Ermolenko, D. V. Yashunsky and **N. K. Kochetkov**	2291	Stereocontrolled synthesis of erythronolides A and B in a (C5-C9)+(C3-C4)+(C1-C2)+(C11-C13) sequence from 1,6-anhydro-β-D-glycopyranose (levoglucosan)—I. Synthesis of C1-C10 and C11-C13 segments
A. F. Sviridov, V. S. Borodkin, M. S. Ermolenko, D. V. Yashunsky and **N. K. Kochetkov**	2317	Stereocontrolled synthesis of erythronolides A and B in a (C5-C9)+(C3-C4)+(C1-C2)+(C11-C13) sequence from 1,6-anhydro-β-D-glucopyranose (levoglucosan)—II.
Ajit Kumar Chakravarty, Binayak Das and **Sibabrata Mukhopadhyay**	2337	Peracid oxidation products of swertanone, the novel triterpene of *Swertia chirata*
	I	Instructions to Contributors

NUMBER 14/15

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 43

RECENT ADVANCES IN BIOORGANIC CHEMISTRY

Guest Editor: D. L. BOGER

Purdue University, West Lafayette, Indiana, USA

i	Contents in Softstrip format
iii	Contributors to this issue
xi	Announcement: *Tetrahedron* Symposia-in-Print
xv	Preface
xvii	Graphical Abstracts

James Inglese and **Stephen J. Benkovic**	2351	Multisubstrate adduct inhibitors of glycinamide ribonucleotide transformylase: synthetic and enzyme-assembled
Ronald Breslow, Eric Anslyn and **Deeng-Lih Huang**	2365	Ribonuclease mimics
G. Beaton, W. K.-D. Brill, A. Grandas, Y.-X. Ma, J. Nielsen, E. Yau and **M. H. Caruthers**	2377	Synthesis of oligonucleotide phosphorodithioates
J. D. Bain, Dean A. Wacker, Eric E. Kuo and **A. Richard Chamberlin**	2389	Site-specific incorporation of non-natural residues into peptides: effect of residue structure on suppression and translation efficiencies
David R. Benson, Robert Valentekovich, Carolyn B. Knobler and **François Diederich**	2401	Porphyrin-cyclophanes: inclusion complexation and X-ray crystal structure of a zinc octamethyldiphenylporphyrin
L. T. Piehler, J.-L. Montchamp, J. W. Frost and **Charles J. Manly**	2423	Predicting inhibition of dehydroquinate synthase
Louis J. Liotta, Jeehiun Lee and **Bruce Ganem**	2433	Effect of 1-epoxyalkyl-1-deoxynojirimycins on exoglucosidases
Martial E. Piotto, Jill Nelson Granger, Yesun Cho, Nasser Farschtschi and **David G. Gorenstein**	2449	Synthesis, NMR and structure of oligonucleotide phosphorodithioates
Barbara J. Carter, Kalakota S. Reddy and **Sidney M. Hecht**	2463	Polynucleotide recognition and strand scission by Fe-bleomycin
Paul B. Hopkins, Julie T. Millard, Jinsuk Woo, Margaret F. Weidner, James J. Kirchner, Snorri Th. Sigurdsson and **Stanley Raucher**	2475	Sequence preferences of DNA interstrand cross-linking agents: importance of minimal DNA structural reorganization in the cross-linking reactions of mechlorethamine, cisplatin and mitomycin C
Julianto Pranata and **William L. Jorgensen**	2491	Monte Carlo simulations yield absolute free energies of binding for guanine-cytosine and adenine-uracil base pairs in chloroform
Kim D. Janda, Stephen J. Benkovic, Donald A. McLeod, Diane M. Schloeder and **Richard A. Lerner**	2503	Substrate attenuation: an approach to improve antibody catalysis
Tae Kyo Park, Joseph Schroeder and **Julius Rebek, Jr.**	2507	Convergent functional groups—XI. Selective binding of guanosine derivatives
Petr Kuzmič, Chong-Qing Sun, Zhi-Cheng Zhao and **Daniel H. Rich**	2519	Long range electrostatic effects in pepsin catalysis
Bernard Cuenoud and **Alanna Schepartz**	2535	Synthesis of N-α-Boc-N-ε-tribenzyl EDTA-L-lysine. An amino acid analogue suitable for solid phase peptide synthesis
Stuart L. Schreiber and **Gregory L. Verdine**	2543	Protein overproduction for organic chemists

Jean Chmielewski and **Peter Schultz**	2563	Monoclonal antibodies with sequence specific affinity for a stem-loop structure in DNA
Jon Stewart, David B. Wilson and **Bruce Ganem**	2573	Chorismate mutase/prephenate dehydratase from *Escherichia coli*: subcloning, overproduction and purification
John-Stephen Taylor and **Sourena Nadji**	2579	Unraveling the origin of the major mutation induced by ultraviolet light, the C→T transition at dTpdC sites. A DNA synthesis building block for the *cis-syn* cyclobutane dimer of dTpdU
Craig A. Townsend and **Amit Basak**	2591	Experiments and speculations on the role of oxidative cyclization chemistry in natural product biosynthesis
Andrew M. MacMillan and **Gregory L. Verdine**	2603	Engineering tethered DNA molecules by the convertible nucleoside approach
Paul J. Smith and **Craig S. Wilcox**	2617	The chemistry of functional group arrays. Electrostatic catalysis and the 'intramolecular salt effect'
Robert M. Williams, Tomasz Glinka, Renee Gallegos, Paul P. Ehrlich, Mark E. Flanagan, Hazel Coffman and **Gyoosoon Park**	2629	Synthesis, conformation, crystal structures and DNA cleavage abilities of tetracyclic analogs of quinocarcin
Richard L. Pederson, John Esker and **Chi-Huey Wong**	2643	An improved synthesis of dihydroxyacetone phosphate
Steven C. Zimmerman, Jean S. Korthals and **Katherine D. Cramer**	2649	*Syn* and *anti*-oriented imidazole carboxylates as models for the histidine-aspartate couple in serine proteases and other enzymes
Dale L. Boger, Stephen A. Munk, Hamideh Zarrinmayeh, Takayoshi Ishizaki, Joan Haught and **M. Bina**	2661	An alternative and convenient strategy for generation of substantial quantities of singly 5′-^{32}P-end-labeled double-stranded DNA for binding studies: development of a protocol for examination of functional features of (+)-CC-1065 and the duocarmycins that contribute to their sequence-selective DNA alkylation properties
	I	Instructions to Contributors

NUMBER 16/17

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
		TETRAHEDRON REPORT NUMBER 288
Alan R. Katritzky, Stanislaw Rachwal and **Gregory J. Hitchings**	2683	Benzotriazole: a novel synthetic auxiliary
Deborah Anne Nicoll-Griffith and **Larry Weiler**	2733	Introduction of a chiral centre on C-6 of a carbohydrate unit: application to the synthesis of the C-2 to C-15 fragment of ionomycin

Johari M. Saad, Yu-hua Hui, J. Kent Rupprecht, Jon E. Anderson, John F. Kozlowski, Geng-xian Zhao, Karl V. Wood and **Jerry L. McLaughlin**	2751	Reticulatacin: a new bioactive acetogenin from *Annona reticulata* (Annonaceae)
Hiroshi Morita, Kazuyuki Kondo, Yukio Hitotsuyanagi, Koichi Takeya, Hideji Itokawa, Nobuo Tomioka, Akiko Itai and **Yoichi Iitaka**	2757	Conformational analysis of antitumor cyclic hexapeptides, RA series
Susumu Harashima, Osamu Oda, Shigeo Amemiya and **Koichi Kojima**	2773	Sodium bis(2-methoxyethoxy)(1,1,1,3,3,3-hexafluoro-2-propoxy)aluminum hydride, a new stereoselective reducing agent in a carbacyclin synthesis
Masao Shiozaki, Yoshiyuki Kobayashi, Tadashi Hata and **Youji Furukawa**	2785	Synthesis of renin inhibitors possessing hydroxyethylene isostere residue from 3,4,6-tri-O-acetyl-D-glucal via lactone precursor
Yoshio Ito, Akira Sasaki, Kastumi Tamoto, Makoto Sunagawa and **Shiro Terashima**	2801	Highly stereocontrolled synthesis of the 1β-methylcarbapenem key intermediate by the Reformatsky reaction of 3-(2-bromopropionyl)-2-oxazolidone derivatives with a 4-acetoxy-2-azetidinone
Yoshio Ito and **Shiro Terashima**	2821	Highly stereoselective Reformatsky reactions of 3-(2-bromopropionyl)-2-oxazolidone derivatives with various aldehydes
Ulrich Groth, Ulrich Schöllkopf and **Thomas Tiller**	2835	Asymmetric synthesis of D-*erythro*-sphingosine
Mieczysław Mąkosza and **Wojciech Lasek**	2843	Cocatalysis in phase-transfer catalyzed β-elimination reactions
Gurnos Jones, Hermione Ollivierre, L. S. Fuller and **J. H. Young**	2851	1,2,3-Triazolo[5,1-*b*]thiazoles—I. Synthesis and properties
Gurnos Jones, Hermione Ollivierre, L. S. Fuller and **J. H. Young**	2861	1,2,3-Triazolo[5,1-*b*]thiazoles—II. Lithiation experiments leading to 2,4-disubstituted thiazoles
Philip C. Bulman Page, Fazal Hussain, Nicholas M. Bonham, Paul Morgan, James L. Maggs and **B. Kevin Park**	2871	Regioselective synthesis of A-ring halogenated derivatives of 17α-ethynyloestradiol
Mauri Lounasmaa and **Tarja Tamminen**	2879	Stereoselective preparation of indoloquinolizidine N-oxides: predominant conformations
Sarina Grinberg and **Eleonora Shaubi**	2895	Catalytic activity of PEG-quat phase-transfer catalysts in dehydrohalogenation reactions
Bo-Long Poh	2903	Correlation analysis of stability constants of complexes formed between alkali metal cations and macrocycles
	I	Instructions to Contributors

NUMBER 18/19

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

2923 Corrigendum

TETRAHEDRON REPORT NUMBER 289

Branko Stanovnik 2925 1,3-Dipolar cycloadditions of diazoalkanes to some nitrogen containing heteroaromatic systems

---

Uriel Olsher, Krzysztof E. Krakowiak, N. Kent Dalley and **Jerald S. Bradshaw** 2947 *syn*-Bishydroxymethyl-14-crown-4: a possible pre-organized molecule for simultaneous lithium complexation and anion solvation

Tatsuhiko Nakano, Alfonso Martín and **Miguel Alonso** 2957 *Buxus* alkaloids—XI. The synthesis of cycloprotobuxine-A (3β,20*S*-chirality) and its two isomeric alkaloids with 3β,20*R*- and 3α,20*R*-configuration from lanosterol

Jianji Wang and **Qiang Wang** 2969 The numbers of constitutions, configurations, chiral and achiral configurations of polyhaloalkanes $C_iH_{2i+2-j}X_j$

Takehiko Nishio, Tadashi Nishiyama and **Yoshimori Omote** 2979 Photooxygenation of pteridin-2,4,7-triones

Isao Shimizu, Kaoruko Hayashi, Nobuyuki Ide and **Masato Oshima** 2991 Facile synthesis of (–)-serricornin by means of palladium-catalyzed hydrogenolysis of alkenyloxiranes

Shigeki Matsunaga, Hirota Fujiki, Daisuke Sakata and **Nobuhiro Fusetani** 2999 Calyculins E, F, G, and H, additional inhibitors of protein phosphatases 1 and 2A, from the marine sponge *Discodermia calyx*

Chisato Mukai, Won Jea Cho, In Jong Kim, Masaru Kido and **Miyoji Hanaoka** 3007 Asymmetric aldol reaction: a highly *erythro*-selective aldol reaction between tricarbonyl(*o*-trimethylsilylbenzaldehyde derivative)-chromium(0) complexes and cyclic silyl enol ethers

Martin H. Spraul, Siegfried Nitz and **Friedrich Drawert** 3037 Photochemical reactions of *p*-mentha-1,3,8-triene and structural related *p*-menthadienes

Ewald Terpetschnig, Gerhard Penn, Gert Kollenz, Karl Peters, Eva-Maria Peters and **Hans Georg von Schnering** 3045 Reactions of cyclic oxalyl compounds—XXXII. Photochemical and thermal 2+2-cycloadditions of diphenylketene and diphenylketen-N-(4-methyl-phenyl)-imine to five-membered heterocyclic 2,3-diones

Cong Zhang, Daniel Bourgin and **Reinhart Keese** 3059 Photochemistry of substituted 1-(but-3-enyl)-indanes

A. Nuhrich et **J. Moulines** 3075 Cyclisation de *N*-tosyl oxiranes-propylamines: synthèse d'hétérocycles azotés

S. K. Ghosh, S. Chattopadhyay and **V. R. Mamdapur** 3089 A chemoenzymatic approach to (*R*)-tetrahydro-5-oxo-2-(2-hydroxyethyl)furan, a useful chiral synthon: application to the synthesis of (*S*)-4-hexanolide, pheromone antipode of *Trogoderma glabrum*

Donald Craig, Doris A. Fischer, Öznur Kemal, Andrew Marsh, Thomas Plessner, Alexandra M. Z. Slawin and **David J. Williams** 3095 Intramolecular Diels-Alder reactions of sulphonyl-substituted trienes

Atta-ur-Rahman, F. Nighat, A. Nelofer, K. Zaman, M. I. Choudhary and **K. T. D. DeSilva** 3129 Macroxine—a novel oxindole alkaloid from *Alstonia macrophylla*

Mariella Mella, Elisa Fasani and **Angelo Albini** 3137 The photosensitized dimerization of 1,3-cyclohexadiene

Javed Iqbal and **Rajiv Ranjan Srivastava** 3155 Cobalt(II) chloride catalysed cleavage of ethers with acyl halides: scope and mechanism

Begoña de Ancos, Francisco Fariña, M. Carmen Maestro, M. Rosario Martín and **M. Mercedes Vicioso** 3171 Pseudoesters and derivatives—XXX. Synthesis of 5-substituted furan-2-(5*H*)-ones by the regiospecific reaction of anions of enaminofuranones with electrophiles

L. H. Koole, P. Agback, C. Glemarec, X.-X. Zhou and **J. Chattopadhyaya** 3183 Solution structure of pentameric and heptameric branched-RNA modelling the lariat structure of group II or nuclear m-RNA introns studied by one- and two-dimensional NMR spectroscopy at 500 MHz

I Tetrahedron Reports on Organic Chemistry

XVII Instructions to Contributors

NUMBER 20/21

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 290

Jean-Pierre Bégué and **Danièle Bonnet-Delpon** 3207 Preparation of trifluoromethyl ketones and related fluorinated ketones

---

Lloyd A. K. Nelson, Angela C. Shaw and **Suzanne R. Abrams** 3259 Synthesis of (+)-, (–)- and (±)-7′-hydroxyabscisic acid

Hai-yin He and **D. John Faulkner** 3271 New chlorinated diterpenes from the gorgonian *Junceella gemmacea*

Tadashi Sato, Toshihiro Kikuchi, Hiroshi Tsujita, Atsushi Kaetsu, Norio Sootome, Ken-ichiro Nishida, Kazutaka Tachibana and **Eigoro Murayama** 3281 The reaction of trialkylstannylmethyllithium with α,β-epoxy ketones and α-chloro ketones

Tadashi Teshima, Takahiro Matsumoto, Tateaki Wakamiya, Tetsuo Shiba, Yoshio Aramaki, Terumi Nakajima and **Nobufumi Kawai** 3305 Total synthesis of NSTX-3, spider toxin of *Nephila maculata*

H. Braun, H. Felber G. Kreße, A. Ritter, F. P. Schmidtchen and **A. Schneider**	3313	Asymmetric synthesis of primary amines from alkenes and chiral chloronitroso sugar derivatives
H. Braun, F. P. Schmidtchen, A. Schneider and **H. Simon**	3329	Microbial reduction of N-allylhydroxylamines to N-allylamines using clostridia
Yvonne Romeyke, Martin Keller, Heinz Kluge, Susanne Grabley and **Peter Hammann**	3335	Secondary metabolites by chemical screening—XIII. Enantioselective synthesis of δ-lactones from streptenol A, a chiral building block from *Streptomyces*
Jacques Viala, Pascal Munier and **Maurice Santelli**	3347	C3-Homologation. Synthesis of C19-skipped polyenic pheromones
Jean-Bernard Baudin, Itka Bkouche-Waksman, Sylvestre A. Julia, Claudine Pascard and **Yuan Wang**	3353	Stereochemical course of the [2,3]-sigmatropic rearrangement of substituted propargyl N,N-dialkylamidosulfoxylates. X-ray molecular structure of [S^*,(S)R^*]-4-[(1,4,4-trimethyl-1,2-pentadienyl)sulfinyl]-morpholine
S. Florio, G. Ingrosso, L. Ronzini and **E. Epifani**	3365	Stereoselective synthesis of vinylbenzothiazoles and their epoxides
Angelina Georgieva, Elena Stanoeva, Stefan Spassov, Josef Macicek, Olyana Angelova, Marietta Haimova and **Norbert De Kimpe**	3375	Reactions of α-chloroimines with homophthalic anhydrides. Synthesis and molecular structure of 3,3a-dihydrofuro[3,4-*c*]isoquinoline-1,5(4H,9bH)-diones, furo[3′,4′:9,9*a*]-8,9,16,16a-tetrahydro-1H,3H,11H-dibenzo[*a,g*]quinolizine-1,11-diones and related compounds
Norbert De Kimpe, Paul Sulmon and **Marc Boeykens**	3389	Synthesis of 2,2-dialkylcyclopropylamines from β-chloroimines and application towards the synthesis of 1-amino-2,2-dialkylcyclopropanecarboxylic acids
Norbert De Kimpe and **Christian Stevens**	3407	A convenient method for the synthesis of β-chloroamines by electrophilic reduction of α-chloroimines
C. Glemarec, M. Jaseja, A. Sandström, L. Koole, P. Agback and **J. Chattopadhyaya**	3417	Solution structure of branched U3′p5′$A^{2'p5'G}_{3'p5'C}$ and its comparison with $A^{2'p5'G}_{3'p5'U}$ by 500 MHz NMR spectroscopy
W. Tong, Z. Xi, C. Gioeli and **J. Chattopadhyaya**	3431	Synthesis of new 2′, 3′-modified uridine derivatives from 2′, 3′-ene-2′-phenylselenonyl uridine by Michael addition reactions
Hendrik H. Mooiweer, Henk Hiemstra and **W. Nico Speckamp**	3451	Total synthesis of (±)-α-allokainic acid via two allylsilane *N*-acyliminium ion reactions
María C. de la Torre, Maurizio Bruno, Franco Piozzi, Giuseppe Savona, Abdallah A. Omar, Aurea Perales and **Benjamín Rodríguez**	3463	Two *neo*-clerodane diterpenoids containing an unusual 2,6-dioxabicyclo[2.2.1]heptane structural moiety
Anna Bernardi, Anna M. Capelli, Angiolina Comotti, Cesare Gennari, Mark Gardner, Jonathan M. Goodman and **Ian Paterson**	3471	Origins of stereoselectivity in chiral boron enolate aldol reactions: a computational study using transition state modelling
José L. Mascareñas, Luis A. Sarandeses, Luis Castedo and **Antonio Mouriño**	3485	Palladium-catalysed coupling of vinyl triflates with enynes and its application to the synthesis of 1α,25-dihydroxyvitamin D_3

Ch. Srinivasa Rao, Maliakel P. Balu, Hiriyakkanavar Ila and **Hiriyakkanavar Junjappa** 3499 Cycloaromatization of α-oxoketene dithioacetals and β-oxodithioacetals with benzyl-, 1-(naphthylmethyl) and 2-(naphthylmethyl)magnesium halides: synthesis of condensed polynuclear aromatic hydrocarbons

I Instructions to Contributors

NUMBER 22

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 44

NATURAL PRODUCT STRUCTURE DETERMINATION

Guest Editor: R. B. BATES

University of Arizona, Tucson, Arizona, USA

i Contents in Softstrip format

iii Contributors to this issue

ix Announcement: *Tetrahedron* Symposia-in-Print

xiii Preface

Thomas J. Stout, Jon Clardy, I. Charles Pathirana and **William Fenical** 3511 Aplasmomycin C: structural studies of a marine antibiotic

Geoffrey A. Cordell and **A. Douglas Kinghorn** 3521 One-dimensional proton-carbon correlations for the structure determination of natural products

Gy. Batta and **K. E. Kövér** 3535 Easy implementation of homonuclear 1-D correlation NMR techniques. Application to oligosaccharides

J. N. Gnabre, J. L. Pinnas, D. G. Martin, S. A. Mizsak, D. A. Kloosterman, L. Baczynskyj, J. W. Nielsen, R. B. Bates, J. J. Hoffmann and **V. V. Kane** 3545 Characterization of steroidal glycosides from *Tylophora sylvatica*

Bonaventure T. Ngadjui, Johnson F. Ayafor, Beibam L. Sondengam, Joseph D. Connolly and **David S. Rycroft** 3555 Hoslundin, hoslundal and hoslunddiol: three new flavonoids from the twigs of *Hoslundia opposita* (Lamiaceae)

Shigetoshi Tsubotani, Seiichi Tanida and **Setsuo Harada** 3565 Structure determination of indolocarbazole alkaloids by NMR spectroscopy

Takashi Yoshida, Tsutomu Hatano, Atallah F. Ahmed, Akira Okonogi and **Takuo Okuda** 3575 Structures of isorugosin E and hirtellin B, dimeric hydrolyzable tannins having a trisgalloyl group

Phillip Crews, Carlos Jiménez and **Mark O'Neil-Johnson** 3585 Using spectroscopic and database strategies to unravel structures of polycyclic bioactive marine sponge sesterterpenes

G. R. Pettit, F. Gao, D. Sengupta, J. C. Coll, C. L. Herald, D. L. Doubek, J. M. Schmidt, J. R. Van Camp, J. J. Rudloe and **R. A. Nieman**	3601	Isolation and structure of bryostatins 14 and 15
Md. Abdul Quader, Alexander I. Gray, Peter G. Waterman, Catherine Lavaud, Georges Massiot and **Ian H. Sadler**	3611	Phebaloparvilactone: a new protolimonoid from the leaves of *Phebalium squamulosum* ssp. *parvifolium*
Atsushi Takahashi, Hiroshi Naganawa, Daishiro Ikeda and **Yoshiro Okami**	3621	Structure determination of altemicidin by NMR spectroscopic analysis
Dale R. Sanson, Hanna Gracz, Michael S. Tempesta, David S. Fukuda, Walter M. Nakatsukasa, Thomas H. Sands, Patrick J. Baker and **Jon S. Mynderse**	3633	A82775B and A82775C, novel metabolites of an unknown fungus of the order Sphaeropsidales
R. J. Mortishire-Smith, J. C. Nutkins, L. C. Packman, C. L. Brodey, P. B. Rainey, K. Johnstone and **D. H. Williams**	3645	Determination of the structure of an extracellular peptide produced by the mushroom saprotroph *Pseudomonas reactans*
Jean-Marc Nuzillard and **Georges Massiot**	3655	Logic for structure determination
	I	Instructions to Contributors

NUMBER 23

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
		TETRAHEDRON REPORT NUMBER 291
Ashok K. Gupta, Xiaoyong Fu, James P. Snyder and **James M. Cook**	3665	General approach for the synthesis of polyquinenes via the Weiss reaction
Leticia U. Colmenares and **Robert S. H. Liu**	3711	11-Methyl-9-demethylretinal and 11-methyl-9,13-didemethyl-retinal. Effect of altered methyl substitution pattern on polyene conformation, photoisomerization and formation of visual pigment analogs
Jin-Shi Ma and **David A. Lightner**	3719	Restricted bond rotation and fluorescence following photoexcitation of dipyrrinones
Angkana Herunsalee, Minoru Isobe and **Toshio Goto**	3727	Diastereoselective heteroconjugate addition of acetylenic derivatives

Shigeru Machida, Yukihiko Hashimoto, Kazuhiko Saigo, Jun-ya Inoue and **Masaki Hasegawa**	3737	The highly *syn*-selective Michael reaction of enamines with 2-(1-alkenyl)-1,3-dioxolan-2-ylium cations generated from 2,2-dimethoxyethyl 2-alkenoates *in situ*
Udo Hedtmann, Ralf Klintz, Kurt Hobert, Jadwiga Frelek, Iontscho Vlahov and **Peter Welzel**	3753	A facile route to 20-hydroxyecdysone and side chain homologues from poststeron
Waldemar Adam and **Elena Gonzalez Nuñez**	3773	Oxygen transfer by dissociative electron transfer. Reaction of tetranitromethane with diazo compounds and sulfides
Torren M. Peakman, H. Lo ten Haven, Jürgen Rullkötter and **Joseph A. Curiale**	3779	Characterisation of 24-*nor*-triterpenoids occurring in sediments and crude oils by comparison with synthesized standards
Y. Landais, J.-P. Robin and **A. Lebrun**	3787	Ruthenium dioxide in fluoro acid medium—I. A new agent in the biaryl oxidative coupling. Application to the synthesis of non phenolic bisbenzocyclooctadienes lignan lactones
P. Merlin, J. C. Braekman and **D. Daloze**	3805	Stereoselective total synthesis of (±)-tetraponerine-8
Krystyna Baczko and **Daniel Plusquellec**	3817	Sugar chemistry without protecting groups—III. A facile chemical synthesis of 6-O-acyl-D-glycopyranoses and methyl-6-O-acyl-D-glycopyranosides
Antonio Abad, Manuel Arnó, Miguel Peiró and **Ramón J. Zaragozá**	3829	Synthesis of (−)-auricularic acid and its C-4 epimer. The absolute configuration of auricularic acid
Abdulrahman H. Al-Husaini, Ikhtiar Khan and **Sk. Asrof Ali**	3845	Addition reactions of *tert*-butylcyanoketene to silyl enol ethers and conjugated dienes
Rita Annunziata, Mauro Cinquini, Franco Cozzi and **Augusto Fuchicello**	3853	Chelation and non-chelation controlled stereoselective reduction of α-methoxy-α-phenylthio ketones
Rita Annunziata, Mauro Cinquini, Franco Cozzi, Laura Raimondi and **Giulia Licini**	3869	Regio- and stereocontrol in the intramolecular nitrile oxide cycloaddition to 2-furylthiol- and 2-furylmethanethiol derivatives
S. P. Maybhate, A. R. A. S. Deshmukh and **S. Rajappa**	3887	Synthesis and tautomerism of 1-arylsulfonamido-1-methylthio-2-nitroethylenes: conversion to N-arylsulfonyl nitroacetamides
Graham R. Baker, David C. Billington and **David Gani**	3895	Synthesis of D- and L-*myo*-inositol 1-phosphorothioate, substrates for inositol monophosphatase
	I	Instructions to Contributors

NUMBER 24

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

Lois M. Browne, Kenneth L. Conn, William A. Ayer and **Jalpa P. Tewari**	3909	The camalexins: new phytoalexins produced in the leaves of *Camelina sativa* (Cruciferae)
Otto D. Hensens, Carol F. Wichmann, Jerrold M. Liesch, Frank L. VanMiddlesworth, Kenneth E. Wilson and **Robert E. Schwartz**	3915	Structure elucidation of restricticin, a novel antifungal agent from *Penicillium restrictum*
Tetsuto Tsunoda, Osamu Sasaki, Osamu Takeuchi and **Shô Itô**	3925	An efficient method for hydrolysis of *N*-monosubstituted amides. Utilization of intramolecular N-O acyl migration in hydroxypivalimides
Satoshi Aoki and **Eiichi Nakamura**	3935	Synthesis of 1,4-dicarbonyl compounds and 4-keto pimelates by palladium-catalyzed carbonylation of siloxycyclopropanes
Hans Willisch, Wolfgang Hiller, Bahram Hemmasi and **Ernst Bayer**	3947	Synthesis, properties and crystal structure of the tripeptide Boc-L-prolyl-L-propargylglycyl-glycine methylester
Norbert Haider	3959	Inverse-electron-demand Diels-Alder reactions of condensed pyridazines—I. Synthesis of phthalazine derivatives from pyridazino[4,5-*d*]pyridazines
Eliane Laurent, Bernard Marquet et **Robert Tardivel**	3969	Etude de la régiosélectivité en fluoration anodique de dérivés benzyliques
Bernard Guyot, Jacques Pornet et **Léone Miginiac**	3981	Le 2-triméthylsilylméthyl allyltriméthylsilane, précurseur de carbocycles et hétérocycles à groupe méthylénique
V. A. Solodenko, T. N. Kasheva, V. P. Kukhar, E. V. Kozlova, D. A. Mironenko and **V. K. Švedas**	3989	Preparation of optically active 1-aminoalkylphosphonic acids by stereoselective enzymatic hydrolysis of racemic N-acylated 1-aminoalkylphosphonic acids
I. Martin, J. Anvelt, T. Pehk and **Ü. Lille**	3999	The synthesis of 16,16-dimethyl-15-keto-prostaglandin B_1 oligomers. The chemical structures of dimers
Ronald Grigg, Frances Heaney, Jasothara Markandu, Sivagnanasundram Surendrakumar, Mark Thornton-Pett and **William J. Warnock**	4007	X═Y—ZH Systems as potential 1,3-dipoles—XXXI. Generation of nitrones from oximes. Background and scope of the tandem 1,2-prototropy-intramolecular cycloaddition sequence
Kalevi Pihlaja, Aija Parkkinen, Ferenc Fülöp, Jorma Mattinen and **Gábor Bernáth**	4031	Ring-chain tautomerism and three- to four-component equilibria in fused-ring tetrahydro-1,3-oxazines
Peter M. Esch, Ilona M. Boska, Henk Hiemstra, Richard F. de Boer and **W. Nico Speckamp**	4039	Tin tetrachloride-induced π-cyclizations of glycine cation equivalents to substituted pipecolic acid derivatives

Peter M. Esch, Richard F. de Boer, Henk Hiemstra, Ilona M. Boska and **W. Nico Speckamp**	4063	Formic acid-induced π-cyclization of glycine cation equivalents to substituted pipecolic acid derivatives
John A. Murphy and **Michael S. Sherburn**	4077	Intramolecular free-radical substitution of pyridinium rings
Jack E. Baldwin, Robert M. Adlington, Justin S. Bryans, Alain O. Bringhen, Janice B. Coates, Nicholas P. Crouch, Matthew D. Lloyd, Christopher J. Schofield, Stephen W. Elson, Keith H. Baggaley, Robert Cassels and **Neville Nicholson**	4089	Isolation of dihydroclavaminic acid, an intermediate in the biosynthesis of clavulanic acid
Elżbieta Luboch, Andrzej Cygan and **Jan F. Biernat**	4101	Bis(benzocrown ether)s with polymethylene bridges and their application in ion-selective electrodes
Ramon Eritja, Anna Pons, Mónica Escarceller, Ernest Giralt and **Fernando Albericio**	4113	Synthesis of defined peptide–oligonucleotide hybrids containing a nuclear transport signal sequence
L. Di Nunno and **A. Scilimati**	4121	An efficient C_2-homologation of aromatic aldehydes via 5-hydroxyisoxazolidines
David M. Hodgson, Philip J. Parsons and **Peter A. Stones**	4133	A short and efficient synthesis of the C-3 to C-10 portion of the maytansinoids
Javed Iqbal, Anu Pandey and **Bhanu P. S. Chauhan**	4143	Metachloroperoxybenzoic acid promoted stereoselective synthesis of 2,5-disubstituted tetrahydrofurans from α or γ-allyl-β-hydroxy esters: a formal synthesis of (±) methyl nonactate
R. H. Huizenga and **U. K. Pandit**	4155	Models of folate cofactors—XXII. Lewis acid catalyzed cyclization of carbon-fragment transfer products of folate cofactor models. Synthesis of enantiomerically pure tetracyclic (ABCE) ring system of Aspidosperma alkaloids
R. H. Huizenga, J. van Wiltenburg, H. Bieräugel and **U. K. Pandit**	4165	Models of folate cofactors—XXIII. A synthetic strategy to the Aspidosperma skeleton. Synthesis of the 21-epimer of 20-deethyl-3,17-dioxo-16-ethoxycarbonyl-1-methylaspidospermidine
Pedro Molina, Pilar M. Fresneda and **Pedro Almendros**	4175	Iminophosphorane-mediated synthesis of fused carbazoles. A facile one-pot preparation of 7H-pyrido[4,3-*c*]carbazole and 10H-pyrido[3,4-*b*]carbazole derivatives
Romualdo Caputo, Carla Ferreri, Giovanni Palumbo and **Francesco Russo**	4187	Reactivity of ethanediyl S,S-acetals—III. Ring aromatization in cyclohexanone derivatives: a novelty synthesis of 1,4-benzodithians

Malcolm Sainsbury, Mary F. Mahon, Colin S. Williams, Alan Naylor and **David I. C. Scopes** 4195 Chiral synthesis of 6,7-benzomorphans: synthesis of (–)1(*S*),2(*S*),4(*R*),6(*R*)-1,2,3,4,5,6-hexahydro-2,6-methano-8-methoxy-1,3,4,6-tetramethyl-3-benzazocine through the chromium hexacarbonyl mediated cyclisation of 1(*S*),1′(*R*)-1,2-dihydro-7-methoxy-1,4-dimethyl-1-(*N*-methyl-*N*-trifluoroacetamido-1′-methylethan-2′-yl)naphthalene

P. Ceccherelli, M. Curini, M. C. Marcotullio and **O. Rosati** 4211 On the reaction of trisubstituted olefins with phenylselenenyl chloride in methanol

I Instructions to Contributors

NUMBER 25

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

4221 Corrigendum

TETRAHEDRON REPORT NUMBER 292

Charles M. Thompson and **Diana L. C. Green** 4223 Recent advances in dianion chemistry

---

Brigitte Caron and **Paul Brassard** 4287 Regiospecific α-substitution of crotonic esters. Synthesis of naturally occurring derivatives of 6-ethyljuglone

Balawant S. Joshi, S. William Pelletier, Xiaolin Zhang and **John K. Snyder** 4299 Proton and carbon-13 NMR studies of delpheline, 8,9-methylenedioxylappaconitine and dictyzine

Takashi Itoh, Kazuhiro Nagata, Mamiko Okada, Hiroyuki Takahashi and **Akio Ohsawa** 4317 The substitution of 5-halo-1,2,3-triazines with electrolytically generated superoxide

Koji Iwamoto, Koji Araki and **Seiji Shinkai** 4325 Syntheses of all possible conformational isomers of O-alkyl-*p*-*t*-butylcalix[4]arenes

C. Agami, F. Couty, B. Prince and **C. Puchot** 4343 Asymmetric synthesis of *N*-methyl-α-amino esters from a glyoxal derived chiral heterocycle

Yvonne Bessiere, Yves Bessard, Takayuki Kotani and **Manfred Schlosser** 4355 In the blind spot of diffusion control: 2-fluoroallyl cations and their various possibilities for stabilization

Erwin Vega, Geertruida A. Rood, Eduard R. de Waard and **Upendra K. Pandit** 4361 Reduction of 5-uracilylmethylenepyridinium salts by thiols. A model of the reduction step of the thymidylate synthase reaction

Kusamba Chifundera, I. Messana, C. Galeffi and **Y. De Vicente** 4369 Research on African medicinal plants—XXV. The (1*R*,2*S*) absolute configuration of nyasicoside. Its occurrence in *Curculigo recurvata*

A. Fernández Mateos, O. Ferrero Barrueco, J. de Pascual Teresa and **R. Rubio González** — 4375 Synthesis of (–) 4,8 β-dimethyl testolactone from (+) O-15-methyl isoagathate

David W. Brown, Paul R. Graupner, Malcolm Sainsbury and **Howard G. Shertzer** — 4383 New antioxidants incorporating indole and indoline chromophores

Henricus J. M. Gijsen, Joannes B. P. A. Wijnberg, Gerrit A. Stork and **Aede de Groot** — 4409 The synthesis of (–)-kessane, starting from natural (+)-aromadendrene—II

Josep Bonjoch, Josefina Quirante, Daniel Solé, Josep Castells, Montserrat Galceran and **Joan Bosch** — 4417 8-Aryl-2-azabicyclo[3.3.1]nonan-7-ones. Synthesis and retro-Michael ring opening

Francesco Chioccara, Patrizia Di Gennaro, Girolamo La Monica, Roberto Sebastiano and **Bruno Rindone** — 4429 Selective *ortho*-hydroxylation of phenols in copper(I) complexes

Matteo Adinolfi, Rosa Lanzetta, Carmela Elsa Marciano Michelangelo Parrilli and **Alfonso De Giulio** — 4435 A new class of anthraquinone-anthrone-*C*-glycosides from *Asphodelus ramosus* tubers

Alejandro F. Barrero, Rafael Quintana M. and **Joaquín Altarejos C.** — 4441 Biomimetic synthesis of 12-oxy-pimaranes from 12,13-epoxy-labdadienes

A. Csámpai, K. Körmendy and **F. Ruff** — 4457 Chain length dependent reactivity of 2-(ω-hydroxyalkyl)-4-(ω'-hydroxyalkylamino)phthalazin-1(2H)-ones in azeotropic hydrobromic acid

Erbana Epifani, Saverio Florio, Daniela Perrone and **Giovanni Valle** — 4465 On the coupling reaction of 1-benzothiazolyl-2-aza-pentadienyl metals with C-electrophiles

Ronald Grigg, Frances Heaney, Sivagnanasundram Surendrakumar and **William J. Warnock** — 4477 X=Y—ZH Systems as potential 1,3-dipoles—XXXII. Generation of nitrones from oximes. Tandem Michael addition-1,3-dipolar cycloaddition reactions. Background and Class 1 processes

Paul Armstrong, Ronald Grigg, Frances Heaney, Sivagnanasundram Surendrakumar and **William J. Warnock** — 4495 X=Y—ZH Systems as potential 1,3-dipoles—XXXIII. Generation of nitrones from oximes. Tandem Michael addition-1,3-dipolar cycloaddition reactions. Class 2 processes in which the dipolarophile is located within the oxime

I Instructions to Contributors

NUMBER 26

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
Mark A. Boehler and **Joseph P. Konopelski**	4519	Enantiomerically pure vinylketene acetals in the Diels-Alder reaction. Catalysis and facial selectivity
Peter J. Stang, Atta M. Arif and **Viktor V. Zhdankin**	4539	Reaction of *E*-1,2-bis[triphenyl(trifluoromethanesulfonyloxy)-phospho]ethylene, $Ph_3PCH{=}CHPPh_3 \cdot 2OTf$ with bases: unusual products and evidence for C_2-diylide, $Ph_3P{=}C{=}C{=}PPh_3$, formation
Kirk R. Gustafson, Murray H. G. Munro, John W. Blunt, John H. Cardellina, II, James B. McMahon, Robert J. Gulakowski, Gordon M. Cragg, Paul A. Cox, Linda S. Brinen, Jon Clardy and **Michael R. Boyd**	4547	HIV Inhibitory natural products—III. Diterpenes from *Homalanthus acuminatus* and *Chrysobalanus icaco*
Edward Piers, Richard W. Friesen and **Brian A. Keay**	4555	Intramolecular palladium(0)-catalyzed coupling of enol triflate and vinylstannane functions. New annulation sequences leading to bicyclic diene systems
Tony K. M. Shing and **Ying Tang**	4571	(–)-Quinic acid in organic synthesis—II. Facile syntheses of pseudo-β-D-mannopyranose and pseudo-β-D-fructopyranose
Eiji Ōsawa, Keisuke Imai, Teruyo Fujiyoshi-Yoneda, Carlos Jaime, Philip Ma and **Satoru Masamune**	4579	On the possibility of determining stereochemistry in acyclic polyhydroxylated compounds by the combined vicinal coupling constant/molecular mechanics method. A test with alditol peracetates
Peter Nussbaumer, Karl Baumann, Thomas Dechat and **Michael Harasek**	4591	Highly selective TFAA-cleavage of tertiary 2,4-dimethoxybenzylamines and its use in the synthesis of secondary amines
Renzo Ruzziconi, Yuji Naruse and **Manfred Schlosser**	4603	1-Oxa-2,3-cyclohexadiene ('2*H*-isopyran'): a strained heterocyclic allene undergoing cycloaddition reactions with characteristic typo-, regio- and stereoselectivities
Mohamed Tabcheh, Abdelrhani El Achqar, Louis Pappalardo, Marie-Louise Roumestant and **Philippe Viallefont**	4611	Alkylation and protonation of chiral Schiff bases: diastereoselectivity as a function of the nature of reactants
Mohamed Chaari, Aïcha Jenhi, Jean-Pierre Lavergne and **Philippe Viallefont**	4619	Reactions of fluorobenzene tricarbonylchromium complexes with anions from Schiff bases of α-amino esters; enantioselective synthesis of α-aryl amino acids
Ehud Keinan, Subhash C. Sinha and **Surendra P. Singh**	4631	Thermostable enzymes in organic synthesis—V. Total synthesis of *S*-(+)-*Z*-dodec-3-en-11-olide (ferrulactone II) using a TBADH-generated bifunctional chiron
Daan van Leusen, Ernst Flentge and **Albert M. van Leusen**	4639	An efficient synthesis of 3-nitropyrroles

Rino A. Bit, Peter D. Davis, Christopher H. Hill, Elizabeth Keech and **David R. Vesey** — 4645 — A Dieckmann/ring expansion approach to tetrahydropyrido- and tetrahydroazepino-[1,2-*a*]indoles

Juraj Bernát, Ladislav Kniežo, Gabriela Birošová, Ján Imrich, Jaroslav Podlaha, Miloš Buděšínský, Jaromír Novák and **Tibor Liptaj** — 4665 — Simple preparation of epimeric 2,6-dimethyl-4-(N'-substituted thioureido)-1,3-dioxanes and crystal structure of *rel*-2*S*,4*S*,6*S*-2,6-dimethyl-4-(N'-benzylthioureido)-1,3-dioxane

R. Van Speybroeck, H. Guo, J. Van der Eycken and **M. Vandewalle** — 4675 — Enantioselective total synthesis of (–)-epipodophyllotoxin and (–)-podophyllotoxin

Patrizio Cecchi, Marco Chini, Paolo Crotti, Adriano Pizzabiocca, Gabriele Renzi and **Maurizio Speranza** — 4683 — Gas-phase acid-induced ring opening in diastereoisomeric 9,10-oxides derived from *trans*-1,2,3,4,4a,10a-hexahydrophenanthrene

J. Hovinen, C. Glemarec, A. Sandström, C. Sund and **J. Chattopadhyaya** — 4693 — Spectroscopic, kinetic and semiempirical molecular orbital studies on 8-amino-, 8-methylamino- and 8-dimethylamino-adenosines

C. E. Dreef, R. J. Tuinman, A. W. M. Lefeber, C. J. J. Elie, G. A. van der Marel and **J. H. van Boom** — 4709 — Synthesis of racemic 3-methylphosphonate analogues of *myo*-inositol 3,4-bis- and 1,3,4-trisphosphate

Norbert De Kimpe, Paul Sulmon and **Chris Stevens** — 4723 — Synthesis of 1-amino-2,2-dialkylcyclopropanecarboxylic acids from β-chloroaldimines

Beritte Christenson, Gerd Hallnemo and **Christina Ullenius** — 4739 — Stereoselective addition of R_2CuLi to *ortho*-substituted methyl cinnamates; intramolecular assistance and solvent effects

Jaime Rodriguez, Rita Castro and **Ricardo Riguera** — 4753 — Holothurinosides: new antitumour non sulphated triterpenoid glycosides from the sea cucumber *Holothuria forskalii*

Gregory T. Bourne, David C. Horwell and **Martyn C. Pritchard** — 4763 — Synthesis of an α-CH_2CO_2H functionalized tryptophan and its incorporation into an analogue of cholecystokinin

Suneel Y. Dike, Jaysukhlal R. Merchant and **Niteen Y. Sapre** — 4775 — A new and efficient general method for the synthesis of 2-spirobenzopyrans: first synthesis of cyclic analogues of Precocene I and related compounds

I Instructions to Contributors

NUMBER 27

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

4787 Corrigendum

TETRAHEDRON REPORT NUMBER 293

John Crosby	4789	Synthesis of optically active compounds: a large scale perspective
Paul Dowd and **Soo-Chang Choi**	4847	Free radical ring-expansion leading to novel six- and seven-membered heterocycles
Minn-Chang Cheng, Keekyung Kim, Yi-Tsong Lin, Janet S. Plummer, Jamil Talhouk, Yan Wang, Tian-Pa You and **Harry S. Mosher**	4861	3-Amino-2,3-dideoxy-D-*erythro*-furanose derivatives
Yongle Chen, Mark F. Bean, Cecily Chambers, Terry Francis, Michael J. Huddleston, Priscilla Offen, John W. Westley, Brad K. Carté and **Barbara N. Timmermann**	4869	Arrivacins, novel pseudoguaianolide esters with potent angiotensin II binding activity from *Ambrosia psilostachya*
Yukari Taura, Masakazu Tanaka, Xiao-Ming Wu, Kazuhisa Funakoshi and **Kiyoshi Sakai**	4879	Asymmetric cyclization reactions. Cyclization of substituted 4-pentenals into cyclopentanone derivatives by rhodium(I) with chiral ligands
Yuji Mori, Yasunori Kohchi, Hirohide Noguchi, Makoto Suzuki, Shmuel Carmeli, Richard E. Moore and **Gregory M. L. Patterson**	4889	Isotactic polymethoxy-1-alkenes from the terrestrial blue-green alga *Scytonema ocellatum*: structure and synthesis
Thomas Allmendinger	4905	Ethyl phenylsulfinyl fluoroacetate, a new and versatile reagent for the preparation of α-fluoro-α,β-unsaturated carboxylic acid esters
Jean-Yves Laronze, Rachida El Boukili, Daniel Royer and **Jean Lévy**	4915	Methylene-indolines, indolenines and indoleniniums—XXII. The Fischer indolization of some substituted cyclopentanones
A. C. Gaumont, L. Wazneh and **J. M. Denis**	4927	Thiocyanohydrins, a new class of compounds, precursors of unstabilized thiocarbonyl derivatives
Eric Didier, Bernard Loubinoux, Gerardo M. Ramos Tombo and **Grety Rihs**	4941	Chemo-enzymatic synthesis of 1,2- and 1,3-amino-alcohols and their use in the enantioselective reduction of acetophenone and anti-acetophenone oxime methyl ether with borane
Christopher J. Adams and **Lyndsay Main**	4959	Synthesis of 2′-hydroxychalcone epoxides
Christopher J. Adams and **Lyndsay Main**	4979	Cyclisation and subsequent reactions of 2′-hydroxy-6′-methoxy-chalcone epoxide and related compounds
Francis X. Bates, John A. Donnelly and **John R. Keegan**	4991	The Friedel–Crafts reaction of acid chlorides with ethene; di-addition and molecular rearrangement
Mieczysław Mąkosza and **Andrzej Kwast**	5001	Vicarious nucleophilic substitution of hydrogen in electrophilic alkenes
Daniel P. Venter	5019	The acid-catalysed racemisation mechanism of catecholamines
Marko Zupan and **Darko Dolenc**	5025	Polymers as reagents and catalysts—XXIX. The role of polymeric mediator structure in electrochemical oxidation

Boris Šket, Marko Zupan, Nataša Zupančič and **Barbara Pahor** 5029 Photosubstitution reactions on aromatic and heteroaromatic rings evidence for addition and substitution mechanism

Nicola d'Alessandro, Mariella Mella, Elisa Fasani, Lucio Toma and **Angelo Albini** 5043 The photochemical reaction between 1,4-dicyanonaphthalene and benzyl ethers

Shigehiro Mori, Tomoyasu Ohno, Hiroshi Harada, Toyohiko Aoyama and **Takayuki Shioiri** 5051 New methods and reagents in organic synthesis—XCII. A stereoselective synthesis of tilivalline and its analogs

I Instructions to Contributors

NUMBER 28

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

Dhanapalan Nagarathnam and **Mark Cushman** 5071 A practical synthesis of flavones from methyl salicylate

Richard S. Glass and **Jeffrey L. Broeker** 5077 Synthesis, crystal, and molecular structures and conformations of naphtho[1,8-*b,c*]-1,5-dithiocin-1,1-dioxide, -1,5-dioxide, -1,1,5-trioxide and -1,1,5,5-tetraoxide

Richard S. Glass and **Jeffrey L. Broeker** 5087 Conformational analysis of naphtho[1,8-*b,c*]-1,5-dithiocin and its S-oxides in solution

Virendra Kumar, Sol J. Daum, Malcolm R. Bell, Michael A. Alexander, Robert G. Christiansen, James H. Ackerman, Michael E. Krolski, Garry M. Pilling, John L. Herrmann, Jr., Richard C. Winneker and **Margaret M. Wagner** 5099 Synthesis and androgen receptor affinity of steroidal methylsulfonylfurans and a methylsulfonylthiophene

Takao Sakamoto, Yoshinori Kondo, Daishi Uchiyama and **Hiroshi Yamanaka** 5111 Condensed heteroaromatic ring systems—XIX. Synthesis and reactions of 5-(tributylstannyl)isoxazoles

Daniel Gygax, Peter Spies, Tammo Winkler and **Ulrike Pfaar** 5119 Enzymatic synthesis of β-D-glucuronides with *in situ* regeneration of uridine 5′-diphosphoglucuronic acid

Sylvie Chardon-Noblat and **Jean-Pierre Sauvage** 5123 Synthesis of bis-porphyrins containing a 2,9-diphenyl-1,10-phenanthroline spacer

Jean-Claude Grandguillot et **Francis Rouessac** 5133 Réaction d'ions cétene-iminiums avec différentes oléfines: un nouveau mode d'accès au (±)-grandisol, au (±)-fragranol et aux éthers méthyliques corréspondants

Alberto Marra, Françoise Gauffeny and **Pierre Sinaÿ** 5149 A novel class of glycosyl donors: anomeric *S*-xanthates of 2-azido-2-deoxy-D-galactopyranosyl derivatives

Georges Roussi and **Jidong Zhang** — 5161 — The use of the β-amino-alcohol-N-oxide derivatives in the synthesis of 2,3 or 4-alkyl substituted NH pyrrolidines

Patrice Vanelle, Nacer Madadi, Christine Roubaud, José Maldonado et **Michel P. Crozet** — 5173 — Synthèse par réaction $S_{RN}1$ de nouveaux dérivés en série imidazo-[1,2-*a*]pyridine à potentialités pharmacologiques

Pascale Leon-Ruaud et **Daniel Plusquellec** — 5185 — Synthèse de nouveaux tensioactifs glycosidiques par l'intermédiaire de sucres halogènes. Thioéthers et sulfones dérivés de l'α-D-glucoside et l'α-D-mannoside de méthyle

Carmen Nájera and **José M. Sansano** — 5193 — $\beta\gamma$-Epoxy sulfones in organic synthesis—II. Preparation of $\beta\gamma$-bifunctionalized sulfones

Gerald Haaima, Mary-Jeanne Lynch, Anne Routledge and **Rex T. Weavers** — 5203 — Alkylidene lactone synthesis

Shashi B. Mahato, Niranjan P. Sahu, Subodh K. Roy and **Sucharita Sen** — 5215 — Structure elucidation of four new triterpenoid oligoglycosides from *Anagallis arvensis*

Susan Billington, John Mann, Paula Quazi, Rikki Alexander, Michael A. W. Eaton, Kenneth Millar and **Andrew Millican** — 5231 — The synthesis of novel bifunctional linker molecules

A. P. Yakubov, D. V. Tsyganov, L. I. Belen'kii, V. S. Bogdanov, B. I. Ugrak and **M. M. Krayushkin** — 5237 — Unusual effects of steric hindrances in NMR spectra of *o,o'*-dialkylsubstituted benzylidene dichlorides

T. R. Kasturi, A. B. Mandal, P. Amruta Reddy, K. B. Ganesha Prasad and **B. Rajasekhar** — 5245 — One pot synthesis of polycyclic oxygen aromatics—III. Mechanism of formation

Peter H. Boyle, Enid M. Hughes and **Hassan A. Khattab** — 5259 — Synthesis of a 2,4-diaminodihydrohomopteridine, 6-acetyl-2,4-diamino-7,8-dihydro-9*H*-pyrimido[4,5-*b*][1,4]diazepine, using a furazano[3,4-*d*]pyrimidine precursor

Joan Bosch, Marisa Salas, Mercedes Amat, Mercedes Alvarez, Isabel Morgó and **Bartomeu Adrover** — 5269 — Studies on the synthesis of *Strychnos* indole alkaloids

Belen Abarca, Rafael Ballesteros, Fatemeh Mojarrad, Mohamed R. Metni, Santiago Garcia-Granda, Enrique Perez-Carreño and **Gurnos Jones** — 5277 — Triazolopyridines—XI. Ylides derived from 2-acylmethyltriazolopyridinium salts

Johan Legters, Lambertus Thijs and **Binne Zwanenburg** — 5287 — Synthesis of naturally occurring (2*S*,3*S*)-(+)-aziridine-2,3-dicarboxylic acid

Predrag Čudić, Branimir Klaić, Zlata Raza, Dragan Šepac and **Vitomir Šunjić** 5295 Synthesis and properties of some Rh(I) catalytic complexes with dinitrogen ligands derived from 5-pyrido-1,4-benzodiazepin-4-ones

Jack E. Baldwin, Mark Bradley, Shaun D. Abbott and **Robert M. Adlington** 5309 New penicillins from isopenicillin N synthase

I Instructions to Contributors

NUMBER 29

i Tetrahedron Prize for Creativity in Organic Chemistry

iii Contents in Softstrip format

v Contributors to this issue

vii Graphical Abstracts

TETRAHEDRON REPORT NUMBER 294

Norihiko Yoneda 5329 The combination of hydrogen fluoride with organic bases as fluorination agents

---

Catherine M. Gasparski and **Marvin J. Miller** 5367 Synthesis of β-hydroxy-α-amino acids by aldol condensation using a chiral phase transfer catalyst

Ajay K. Bose, John F. Womelsdorf, Lalitha Krishnan, Zofia Urbanczyk-Lipkowska, Dennis C. Shelly and **Maghar S. Manhas** 5379 Diastereoselective synthesis of bis-beta-lactams

Terry Rosen and **Karen J. Guarino** 5391 Kinetically-controlled displacement by azide on an allylic chloride: synthesis of a highly potent serotonin-3 receptor ligand prototype

T. Tokuyama, T. Tsujita, A. Shimada, H. M. Garraffo, T. F. Spande and **J. W. Daly** 5401 Alkaloids from dendrobatid poison frogs: further *cis*-decahydroquinolines and 8-methylindolizidines

T. Tokuyama, T. Tsujita, H. M. Garraffo, T. F. Spande and **J. W. Daly** 5415 Alkaloids from dendrobatid poison frogs: further pumiliotoxins and allopumiliotoxins and a reassignment of the keto function in pumiliotoxin 307F

Che-Ping Chuang 5425 The free radical cyclization reaction of 1,6-dienes with allylsulfones

Kazuhiro Kobayashi, Masahito Itoh, Akiyoshi Sasaki and **Hiroshi Suginome** 5437 New short step general synthesis of isobenzofuran-1(3*H*)-ones (phthalides) based on a single or double β-scission of alkoxyl radicals generated from 1-ethylbenzocyclobuten-1-ols and from 1,3-dihydroisobenzofuran-1-ols; synthesis of some natural phthalides

Shin-ichiro Kajiyama, Kazuhiro Irie, Takae Kido, Koichi Koshimizu, Hideo Hayashi and **Motoo Arai** 5453 Synthesis of new indolactam analogues by microbial conversion

Siyu Ye and **Fritz Beck** 5463 Selective anodic oxidation of camphor

Wolfgang Holzer	5471	Spectral and structural assignments with various *N*-substituted 1,2,4-triazoles: NOE difference spectroscopy as a powerful tool
C. Alexandre, C. Bertho, B. Tabti et **F. Rouessac**	5481	Synthèse et réactions de Diels-Alder des 5-alcenyl (3*H*)furan-2-ones
Charles M. Marson, David W. M. Benzies and **Adrian D. Hobson**	5491	Stereocontrolled syntheses of hydroxylated tricyclic systems by a new annulation of 2-cyclohexen-1-one
M.-Lluïsa Bennasar, Ester Zulaica, Josep Bonjoch and **Joan Bosch**	5507	Studies on the synthesis of the indole alkaloids ngouniensine and epingouniensine
A. J. M. Janssen, A. J. H. Klunder and **B. Zwanenburg**	5513	Enzymatic resolution of norbor(ne)nylmethanols in organic media and an application to the synthesis of (+)- and (−)-*endo*-norbornene lactone
Lajos Kovács, Pál Herczegh, Gyula Batta and **István Farkas**	5539	Thiazole *C*-nucleosides—III. Synthesis of pyranose analogues of tiazofurin
Lajos Kovács, Pál Herczegh, Gyula Batta and **István Farkas**	5549	Thiazole *C*-nucleosides—IV. An entry to pent-1′-enopyranosylthiazole derivatives
W. Brian Jennings and **Carl J. Lovely**	5561	The titanium tetrachloride induced synthesis of *N*-phosphinoylimines and *N*-sulphonylimines directly from aromatic aldehydes
R. R. Vardaro, V. Di Marzo, A. Crispino and **G. Cimino**	5569	Cyercenes, novel polypropionate pyrones from the autotomizing Mediterranean mollusc *Cyerce cristallina*
Ilya D. Gridnev, Aleksey V. Shastin and **Elisabeth S. Balenkova**	5577	The concerted mechanism of acylamidation, *syn*-stereospecificity of the reaction
Mario Rubiralta, M. Pilar Marco, Jordi Bolós and **Jaume Trapé**	5585	Synthetic applications of 2-aryl-4-piperidones—VI. Synthesis of the fundamental tetracyclic skeleton of ervitsine and its 20-deethylidene-6,16-dihydro analogue
Jack E. Baldwin, Cynthia D. Jesudason, Mark G. Moloney, D. Rhys Morgan and **Andrew J. Pratt**	5603	The synthesis of substituted aryl diazirines. A bifunctional reagent suitable for application to photoaffinity labelling studies
Simon J. Clarke, Thomas L. Gilchrist, Américo Lemos and **Tony G. Roberts**	5615	Reactions of azoalkenes derived from hydrazones of ethyl bromopyruvate with electron rich alkenes and heterocycles
Robert Ramage, Angus M. MacLeod and **Graeme W. Rose**	5625	Dioxalanones as synthetic intermediates—VI. Synthesis of 3-deoxy-D-manno-2-octulosonic acid (KDO), 3-deoxy-D-arabino-2-heptulosonic acid (DAH) and 2-keto-3-deoxy-D-gluconic acid (KDG)
Ana Cristina de S. Pereira, Maria Auxiliadora C. Kaplan, José Guilherme S. Maia, Otto R. Gottlieb, Robert J. Nash, George Fleet, Lisa Pearce, David J. Watkin and **Anthony M. Scofield**	5637	Isolation of 7a-epialexaflorine from leaves of *Alexa grandiflora* a unique pyrrolizidine amino acid with a carboxylic acid substituent at C-3
	I	Tetrahedron Reports on Organic Chemistry
	XVII	Instructions to Contributors

NUMBER 30

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
	5641	Corrigendum
Thomas T. Shawe and **Lanny S. Liebeskind**	5643	Saframycin synthetic studies
Samy Abdel-Baky, Chariklia Sotiriou-Leventis and **Roger W. Giese**	5667	Superoxide oxidation of 1-nitropyrene-*cis*-dihydrodiols
Richard J. Sundberg and **Kumar G. Gadamasetti**	5673	An improved reaction sequence for electrophilic cyclization of methyl 6-(2-indolyl)-2-azabicyclooct-7-ene-6-carboxylates to iboga alkaloid analogs
H. Rodriguez, A. Marquez, C. A. Chuaqui and **B. Gomez**	5681	Oxidation of mesoionic oxazolones by oxygen
Masayuki Sato, Jun-ichi Sakaki, Yoshiaki Sugita, Sanae Yasuda, Hiroko Sakoda and **Chikara Kaneko**	5689	Two lactone formation reactions from 1,3-dioxin-4-ones having hydroxyalkyl group at the 6-position: difference in ring opening and closure
H. P. Buser, B. Pugin, F. Spindler and **M. Sutter**	5709	Two enantioselective syntheses of a precursor of the biologically most active isomer of CGA 80000 (clozylacon)
Anthony D. Wright, Gabriele M. König, Otto Sticher and **Rocky de Nys**	5717	Five new monoterpenes from the marine red alga *Portieria hornemannii*
Eric Defrancq, Anne Leterme, Nadia Pelloux, Marie-France Lhomme et **Jean Lhomme**	5725	Arylamidation de la guanosine par un agent cancérogène, le 2-aminofluorène. Approche intramoléculaire
Rita Annunziata, Mauro Cinquini, Franco Cozzi, Paola Giaroni and **Maurizio Benaglia**	5737	Diastereo- and enantioselective synthesis of 1,2-diols by vanadium(II) promoted pinacol cross coupling
P. K. Zubaidha, Subhash P. Chavan, Uday S. Racherla and **Nagaraj R. Ayyangar**	5759	Synthesis of (±) heritol
Kirill A. Lukin, Anna Yu. Masunova, Bogdan I. Ugrak and **Nikolai S. Zefirov**	5769	The synthesis of bismethylene derivatives of triangulanes
Pinchas Aped, Benzion Fuchs, Israel Goldberg, Hanoch Senderowitz, Leah Schleifer, Evgeny Tartakovsky, Marc Anteunis and **Frans A. M. Borremans**	5781	Structure, conformation and stereoelectronics of 9,10-annelated-1,4,5,8-tetraoxadecalins: a multidisciplinary probe

José Fuentes, M. Angeles Pradera and **Inmaculada Robina** — 5797 Preparation and properties of 2-deoxyglycosyl isothiocyanates

Yolanda Amate, Andrés García-Granados, Antonio Martínez, Antonio Sáenz de Buruaga, Jose L. Bretón, M. Esther Onorato and **Jose M. Arias** — 5811 Biotransformation of 6β-eudesmanolides functionalized at C-3 with *Curvularia lunata* and *Rhizopus nigricans* cultures

Elisabetta Rossi, Daniela Calabrese and **Francesca Farma** — 5819 A convenient synthesis of quinazoline ring by tandem aza-Wittig reaction/electrocyclic ring closure

Jack E. Baldwin, Robert M. Adlington, Christopher R. A. Godfrey, David W. Gollins and **Christopher J. Schofield** — 5835 The stereospecific synthesis of alahopcin

Rafael Suau, M. Victoria Silva and **María Valpuesta** — 5841 A novel oxidation stage in the chemistry of protoberberine alkaloids. Synthesis of 7,8-dehydroberbines

J. Plavec, V. Buet, A. Grouiller, L. Koole and **J. Chattopadhyaya** — 5847 Structural studies on 1-(1-deoxy-β-D-psicofuranosyl)thymine

G. Desimoni, G. Faita and **P. P. Righetti** — 5857 Solvent effect as the result of frontier molecular orbital interaction—VI. The Diels-Alder reactions of an N-acyl-*o*-quinone monoimide behaving as diene or dienophile

Carmen Almansa, Albert Moyano and **Félix Serratosa** — 5867 Perhydrotriquinacenic hosts—I. Synthesis, complexation and transport properties of tripodands of C_3 symmetry

Stefania Fioravanti, M. Antonietta Loreto, Lucio Pellacani and **Paolo A. Tardella** — 5877 Asymmetric formation of C-N bonds in chiral enol ethers

Magnus Polla and **Torbjörn Frejd** — 5883 Synthesis of optically active cyclohexenol derivatives via enzyme catalyzed ester hydrolysis of 4-acetoxy-3-methyl-2-cyclohexenone

Daniel Alonso, Josep Font, Rosa M. Ortuño, Jean d'Angelo, André Guingant and **Claudette Bois** — 5895 Diels-Alder reactions of protoanemonin with heterosubstituted dienes. Synthesis of polyfunctional oxaspiro[4.5]decanes

Jack E. Baldwin, Robert M. Adlington, Mark B. Mitchell and **Jeremy Robertson** — 5901 Intramolecular S_H2' macrocyclisations

I Instructions to Contributors

NUMBER 31

TETRAHEDRON SYMPOSIA-IN-PRINT NUMBER 45

FRONTIERS IN NATURAL PRODUCTS BIOSYNTHESIS. ENZYMOLOGICAL AND MOLECULAR GENETIC ADVANCES

Guest Editor: D. E. CANE

Brown University, Providence, Rhode Island, USA

	i	Contents in Softstrip format
	iii	Contributors to this issue
	ix	Announcement: Tetrahedron Symposia-in-Print
	xiii	Preface
	xv	Graphical Abstracts
Ian P. Street, Hazel R. Coffman and **C. Dale Poulter**	5919	Isopentenyl diphosphate isomerase. Site-directed mutagenesis of Cys139 using 'counter' PCR amplification of an expression plasmid
Tsutomo Hoshino, Howard J. Williams, Yongseog Chung and **A. Ian Scott**	5925	Partial purification and characterization of oxidosqualene-lanosterol cyclase from baker's yeast
Kurt Wagschal, Thomas J. Savage and **Rodney Croteau**	5933	Isotopically sensitive branching as a tool for evaluating multiple product formation by monoterpene cyclases
T. M. Kutchan, H. Dittrich, D. Bracher and **M. H. Zenk**	5945	Enzymology and molecular biology of alkaloid biosynthesis
Kazuki Saito, Mami Yamazaki, Akihiko Kawaguchi and **Isamu Murakoshi**	5955	Metabolism of solanaceous alkaloids in transgenic plant teratomas integrated with genetically engineered genes
Takashi Hakamatsuka, Muhammed Faisal Hashim, Yutaka Ebizuka and **Ushio Sankawa**	5969	P-450-Dependent oxidative rearrangement in isoflavone biosynthesis: reconstitution of P-450 and NADPH:P-450 reductase
Steven J. Gould and **Rodney L. Eisenberg**	5979	The origin of the C-2 hydroxyl in the isochorismate synthase reaction
J. E. Baldwin, J. M. Blackburn, J. D. Sutherland and **M. C. Wright**	5991	High-level soluble expression of isopenicillin N synthase isozymes in *E. coli*
Nigel Crockett, Peter R. Alefounder, Alan R. Battersby and **Chris Abell**	6003	Uroporphyrinogen III synthase: studies on its mechanism of action, molecular biology and biochemistry
Peter M. Jordan and **Jonathan B. Spencer**	6015	Mechanistic and stereochemical investigation of fatty acid and polyketide biosynthesis using chiral malonates

David H. Sherman, Maureen J. Bibb, Thomas J. Simpson, Darrin Johnson, Francisco Malpartida, Miguel Fernandez-Moreno, Eduardo Martinez, C. Richard Hutchinson and **David A. Hopwood** — 6029 — Molecular genetic analysis reveals a putative bifunctional polyketide cyclase/dehydrase gene from *Streptomyces coelicolor* and *Streptomyces violaceoruber*, and a cyclase/O-methyltransferase from *Streptomyces glaucescens*

Heinz G. Floss and **William R. Strohl** — 6045 — Genetic engineering of hybrid antibiotics—a progress report

Shizuko Kakinuma, Haruo Ikeda and **Satoshi Ōmura** — 6059 — Genetic studies of the biosynthesis of kalafungin, a benzoisochromanequinone antibiotic

Ronald J. Parry and **Shyhchen Ju** — 6069 — The biosynthesis of sinefungin: investigations using a cell-free system

I — Instructions to Contributors

NUMBER 32

i — Contents in Softstrip format

iii — Contributors to this issue

v — Obituary

xiii — Graphical Abstracts

TETRAHEDRON REPORT NUMBER 295

P. Cintas — 6079 — Asymmetric synthesis of α-amino acids from carbohydrates as chiral templates

---

Kenneth N. Drew and **Paul H. Gross** — 6113 — C-Glycoside syntheses—II. Henry condensations of 4,6-O-alkylidene pyranoses with a 1,3-proton transfer catalyst—a route to blocked aminomethyl-*C*-glycosides

Derek H. R. Barton, Chen Chen and **G. Michael Wall** — 6127 — Synthesis of disulfides via sulfenylation of alkyl and aryldithiopyridine N-oxides

Albert Padwa and **M. Woods Wannamaker** — 6139 — Preparation and reactivity of arylsulfonyl substituted cyclopropenes

Stan V. D'Andrea, Jeremiah P. Freeman, Philip F. VonVoigtlander and **Jacob Szmuszkovicz** — 6157 — Anticonvulsants related to U-54494 prepared from *cis*-1,2- and *cis*-2,3-diaminotetralin

Yu-Ming Pu and **David A. Lightner** — 6163 — On the conformation of bilirubin dianion

Dennis P. Curran and **Dooseop Kim** — 6171 — Iodine atom transfer addition reactions with alkynes—I. Alkyl iodides

Dennis P. Curran, Dooseop Kim and **Carl Ziegler** — 6189 — Iodine atom transfer addition reactions with alkynes—II. α-Iodocarbonyls

Jun-ichi Sakaki, Yoshiaki Sugita, Masayuki Sato and **Chikara Kaneko** — 6197 — Synthesis of 1,3-dioxin-4-ones having chiral hydroxyalkyl groups at the 6-position by means of baker's yeast reduction and their uses for EPC synthesis

Hiroyuki Takahashi, Minoru Isobe and **Toshio Goto** — 6215 — Chemical synthesis of lampteroflavin as light emitter in the luminous mushroom, *Lampteromyces japonicus*

Eiichiro Fukusaki, Shuji Senda, Yutaka Nakazono and **Tetsuo Omata**	6223	Lipase-catalyzed kinetic resolution of methyl 4-hydroxy-5-tetradecynoate and its application to a facile synthesis of Japanese beetle pheromone
Hidemitsu Uno, Shin-ichiro Okada and **Hitomi Suzuki**	6231	Preparation of perfluoroalkyl azaarenes with a perfluoroalkyllithium-boron trifluoride system
Orlando Crescenzi, Alessandra Napolitano, Giuseppe Prota and **Martin G. Peter**	6243	Oxidative coupling of DOPA with resorcinol and phloroglucinol: isolation of adducts with an unusual tetrahydromethanobenzofuro[2,3-*d*]azocine skeleton
Qingchang Meng and **Manfred Hesse**	6251	Synthetic approaches toward glidobamine, the core structure of the glidobactin antibiotics
Antoine Fadel	6265	A new and convenient synthesis of 1-aminocyclopropanecarboxylic acid from cyclopropanone acetal
Pierre Beslin et **Stéphane Perrio**	6275	Formation stéréocontrôlée de deux centres chiraux contigus par thioréarrangement de Claisen d'α-hydroxydithioacétals de cétène S-allylés
Manfred Schlosser and **Henri Bossert**	6287	The 'two-fold reaction' benchmark applied to the copper catalyzed assembling of 1,ω-difunctional hydrocarbon chains
Guy Fournet, Geneviève Balme et **Jacques Goré**	6293	Synthèse de (*E*)-arylidène et allylidène cyclopentanes par une annélation catalysée par un complexe de palladium(0)
C. Sund, A. Földesi, S. Yamakage, P. Agback and **J. Chattopadhyaya**	6305	New regiospecific synthesis of branched tetra-, nona- and deca-RNA modelling the lariat formed in RNA splicing reactions
Carmen Nájera, Alfonso Pérez-Pinar and **José M. Sansano**	6337	A simple method for the synthesis of γ-functionalized vinyl and allyl sulfones
Robert Ramage, Jeremy Green Alexander J. Blake	6353	An acid labile arginine derivative for peptide synthesis: N^G-2,2,5,7,8-pentamethylchroman-6-sulphonyl-L-arginine
Mauri Lounasmaa and **Esko Karvinen**	6371	Stereochemical course of the modified Polonovski reaction and mercuric acetate oxidation in the preparation of 2-substituted 1,2,3,4,6,7,12,12*b*-octahydroindolo[2,3-*a*]quinolizines
Christopher J. France, Ian M. McFarlane, Christopher G. Newton, Philippe Pitchen and **Derek H. R. Barton**	6381	Bis-deoxygenation of methyl 3,6-anhydro-D-pyranosides
Ljubinka B. Lorenc, Ivan O. Juranić, Milan M. Dabović and **Mihailo Lj. Mihailović**	6389	Non-sensitized photooxygenation of some steroidal isoxazolidines
Valentin St. Enev and **Elena T. Tsankova**	6399	Lewis acid catalysed rearrangement of 7,11-epoxyisogermacrone. Formation of a new carbon skeleton
Amin Ali, Simon D. Guile, J. Edwin Saxton and **Mark Thornton-Pett**	6407	Synthetic studies towards paspalicine: preliminary investigations, and the synthesis of 3′,4′,7′,7′*a*,9′,10′,11′,11′*a*-octahydro-4′,4′,7′*a*-trimethylspiro[1,3-dioxolane]-2,8′(6′*H*)-2′*H*-3′,5′*a*-epoxynaphth-[2,1-*b*]oxepin-2′-one
Lodovico Lunazzi, Giuseppe Placucci and **Dante Macciantelli**	6427	Stereodynamics and conformation of furan-3-aldehyde and of its corresponding furoyl σ-radical

Hari Babu Mereyala and **G. Venugopal Reddy** 6435 Stereoselective synthesis of α-linked saccharides by use of per *O*-benzylated 2-pyridyl 1-thio hexopyranosides as glycosyl donors and methyl iodide as an activator

Pier Giuseppe Ciattini, Enrico Morera, Giorgio Ortar and **Sabina Strano Rossi** 6449 Preparative and regiochemical aspects of the palladium-catalyzed carbonylative coupling of 2-hydroxyaryl iodides with ethynylarenes

Javed Iqbal, Beena Bhatia and **Naresh K. Nayyar** 6457 Cobalt(II) acetate promoted oxidative addition of 1,3-dicarbonyl compounds to alkenes under aerobic conditions

Tord Inghardt, Torbjörn Frejd and **Göran Svensson** 6469 Organoaluminium induced ring-opening of epoxypyranosides—IV. Synthesis and structure of γ-hydroxy-isoleucine stereoisomers and their corresponding lactones

Tord Inghardt and **Torbjörn Frejd** 6483 Organoaluminium induced ring-opening of epoxypyranosides—V. Formal total synthesis of antimycin A_3 and synthesis of (+)-blastmycinone

Paul C. Yates, Carol J. McCall and **Malcolm F. G. Stevens** 6493 Structural studies on benzothiazoles. Crystal and molecular structure of 5,6-dimethoxy-2-(4-methoxyphenyl)-benzothiazole and molecular orbital calculations on related compounds

Arturo San Feliciano, Esther Caballero, Juan A. P. Pereira and **Pilar Puebla** 6503 2,3,8,8*a*-Tetrahydro-7*H*-oxazolo[3,2-*a*]pyridine: a new heterocyclic system

M. Moreno-Mañas, A. González, C. Jaime, M. E. Lloris, J. Marquet, A. Martínez, A. C. Siani, A. Vallribera, I. Hernández-Fuentes, M. F. Rey-Stolle and **C. Salom** 6511 Preparation and conformational analysis of severely hindered β-diketones. Dipole moment determinations and theoretical calculations

Peter Baeckström and **Lanna Li** 6521 Isoprenoid chain elongations by Claisen rearrangements using acetals as precursors of vinyl ethers

Peter Baeckström and **Lanna Li** 6533 Syntheses of all-*trans* acyclic isoprenoid pheromone components

I Instructions to Contributors

NUMBER 33

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

Sandeep P. Modi, Meged A. Michael, Sydney Archer and **James J. Carey** 6539 An efficient synthesis of C-11 substituted 6H-pyrido[4,3-*b*]carbazoles

Alan R. Oyler, Roxanne E. Naldi, Kevin L. Facchine, David J. Burinsky, Madeleine H. Cozine, Richard Dunphy, J. Douglas Alves-Santana and **Mary Lou Cotter**	6549	Characterization of autoxidation products of the antifungal compounds econazole nitrate and miconazole nitrate
Derek H. R. Barton, Eva Csuhai, Dario Doller and **Yurii V. Geletii**	6561	The functionalization of saturated hydrocarbons—XIX. Oxidation of alkanes by H_2O_2 in pyridine catalyzed by copper(II) complexes. A Gif-type reaction
Alan P. Marchand and **G. Madhusudhan Reddy**	6571	Stereospecific solid state sodium borohydride reductions of cage diketones
Donald B. Denney and **Dorothy Z. Denney**	6577	A reconsideration of the mechanism for the aromatic version of radical nucleophile displacement reactions
Kevin Burgess and **Ian Henderson**	6601	Stereochemically matched sulfinylacetates for double diastereo-selection in the SPAC reaction
Jun'ichi Kobayashi, Masashi Tsuda, Kaori Agemi, Hideyuki Shigemori, Masami Ishibashi, Takuma Sasaki and **Yuzuru Mikami**	6617	Purealidins B and C, new bromotyrosine alkaloids from the Okinawan marine sponge *Psammaplysilla purea*
Takuo Nishida, Takuya Nihira and **Yasuhiro Yamada**	6623	Facile synthesis of racemic 2-hexyl-3-hydroxy-4-pentanolide (NFX-2) and its optical resolution
Masataka Ihara, Yuji Tokunaga, Nobuaki Taniguchi and **Keiichiro Fukumoto**	6635	Stereoselective synthesis of (+)-testosterone via intramolecular 1,3-dipolar cycloaddition of nitrile oxide
Hocine Aichaoui, Jacques H. Poupaert, Daniel Lesieur, and **Jean-Pierre Hénichart**	6649	Regioselectivity in the C-acylation of 2(3H)-benzoxazolones
Jean-Bernard Baudin, Itka Bkouche-Waksman, Georges Hareau, Sylvestre A. Julia, Robert Lorne and **Claudine Pascard**	6655	Diastereoselectivity in the [2,3]-sigmatropic rearrangement of substituted allylic N,N-dialkylamidosulfoxylates. X-Ray molecular structure of [(1′)*S**, (S)*S**]-(2′*E*)-4-[[3′-(4″-bromophenyl)-1′-methyl-2′-propenyl]sulfinyl]-morpholine
F. Nief and **F. Mathey**	6673	New reactivity of phosphirenes (phosphacyclopropenes). Synthesis of allenylphosphines and of functional phosphirenes
Christian Berrier, Marie-Paule Jouannetaud, Jean-Claude Jacquesy and **Faustin Kigabo**	6681	A novel efficient route to hexahydrodibenzofuran derivatives
Corine Glemarec, Yevgeny Besidsky, Jyoti Chattopadhyaya, Jaroslaw Kusmierek, Marjo Lahti, Mikko Oivanen and **Harri Lönnberg**	6689	N^2,3-Ethenoguanosine and IA′-metamorphosine: ^{15}N NMR spectroscopy and elucidation of physico-chemical properties by kinetic and equilibrium measurements
Jacobus A. Steenkamp, C. Hendrik L. Mouton and **Daneel Ferreira**	6705	Regio- and stereoselective oxidation of flavan-3-ol-, 4-arylflavan-3-ol-, and biflavanoid derivatives with 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ)

Giovanni B. Marini-Bettolo, Corrado Galeffi, Giuseppina Multari, Giovanna Palazzino and **Irene Messana**	6717	Research on African medicinal plants—XXVII. Interjectin, a derivative of nyasicoside from *Hypoxis interjecta* and *Hypoxis multiceps*
Marina Burdisso, Remo Gandolfi, Lucio Toma and **Roberta Oberti**	6725	Hexafluoroisopropanol as a suitable solvent for rearrangements via zwitterionic intermediates
Pedro Molina, Enrique Aller and **Angeles Lorenzo**	6737	Pyrido annelation reaction by a tandem aza Wittig/electrocyclic ring-closure strategy: preparation of pyrazolo[4,3-*c*)- and pyrazolo[3,4-*c*]pyridine derivatives
Pedro Molina, Mateo Alajarín and **Antonia López-Lázaro**	6747	Regioselective iminophosphorane-mediated annelation of a 1,3,4-thiadiazole ring into a 1,2,4-triazine ring: preparation of novel mesoionic compounds derived from [1,3,4]thiadiazolo[2,3-*c*]- and [1,3,4]thiadiazolo[3,2-*d*][1,2,4]triazines
Edward Grochowski and **Krzysztof Pupek**	6759	A convenient synthesis of β-lactams from alkylthioimidates
Luigi Garlaschelli, Pascal de Tullio and **Giovanni Vidari**	6769	Synthetic studies on biologically active natural compounds—III. Stereospecific transformation of uvidin A into (−)-cinnamosmolide
Richard A. Jackson	6777	Stabilization effects in alkanes and in primary, secondary and tertiary alkyl radicals
Jan C. van den Bos, Wilhelmus J. Vloon, Gerrit-Jan Koomen and **Upendra K. Pandit**	6787	Synthesis of acyclic analogues of sesbanimides A and B
Jack E. Baldwin, Robert M. Adlington and **Jeremy Robertson**	6795	Carbocyclic ring expansion reactions via radical chain processes—II
James C. Anderson, Steven V. Ley, Dinos Santafianos and **Richard N. Sheppard**	6813	Chemistry of insect antifeedants from *Azadirachta indica*—VIII. Synthesis of hydroxydihydrofuran acetal fragments for biological evaluation and azadirachtin total synthesis studies
	I	Instructions to Contributors

NUMBER 34

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
		TETRAHEDRON REPORT NUMBER 296
Randolph P. Thummel	6851	The synthesis and properties of organized polyaza cavity-shaped molecules
M. Graça H. Vicente and **Kevin M. Smith**	6887	Functionalizations of the alkyl substituents in octa-alkylporphyrins

Dian Chen and **Arthur E. Martell**	6895	The synthesis of new binucleating polyaza macrocyclic and macrobicyclic ligands: dioxygen affinities of the cobalt complexes
Angelina Flores-Parra, Norberto Farfán, Alberto I. Hernández-Bautista, Lilia Fernández-Sánchez and **Rosalinda Contreras**	6903	NMR study of the effect of nitrogen–borane coordination on the conformational equilibrium of six membered ring heterocycles
Anup Sood, Cynthia K. Sood, Iris H. Hall and **B. F. Spielvogel**	6915	Boron analogues of phosphonoacetates: synthesis, characterization and antitumor properties of sodium diethylphosphite–carboxyborane and related compounds
Sheo B. Singh, Jack L. Smith, Glory S. Sabnis, Anne W. Dombrowski, James M. Schaeffer, Michael A. Goetz and **Gerald F. Bills**	6931	Structure and conformation of ophiobolin K and 6-epiophiobolin K from *Aspergillus ustus* as a nematocidal agent
Marc Julia, Brian McDonald and **Marcos Caroli Rezende**	6939	Biomimetic transalkylation of olefins via sulfonium salts
Koichi Komatsu, Hidekazu Akamatsu, Shuji Aonuma, Yasuhisa Jinbu, Naoko Maekawa and **Ken'ichi Takeuchi**	6951	Formation, properties, and reactions of the 1,2:3,4:5,6-tris-(bicyclo[2.2.2]octeno)tropylium ion
Morio Asaoka, Satoshi Hayashibe, Syuzo Sonoda and **Hisashi Takei**	6967	New route to (–)-frontalin and (–)-malyngolide via epoxyketone rearrangement
Katsumi Kakinuma, Toshihiro Matsuzawa and **Tadashi Eguchi**	6975	Diacetone glucose architecture as a chirality template—I. Crucial effects of the intramolecular oxygens upon the $LiAlH_4$ reduction of the propargyl alcohol of 3-*C*-ethynyl-1,2:5,6-di-*O*-isopropylidene-α-D-allofuranose derivatives
Keiji Maruoka, Takashi Ooi, Shigeru Nagahara and **Hisashi Yamamoto**	6983	Organoaluminum-catalyzed rearrangement of epoxides; a facile route to the synthesis of optically active β-siloxy aldehydes
Takeshi Kitahara, Tsunehiro Nishi and **Kenji Mori**	6999	Synthesis of both the enantiomers of methyl epijasmonate
Hideji Itokawa, Hiroshi Morita, Koichi Takeya, Nobuo Tomioka, Akiko Itai and **Yoichi Iitaka**	7007	New antitumor bicyclic hexapeptides, RA-VI and -VIII from *Rubia cordifolia*; conformation-activity relationship—II
Masao Shiozaki, Yoshiyuki Kobayashi and **Masami Arai**	7021	Synthesis of (2*R*,3*S*)-3-[(benzyloxycarbonyl)oxy]-2-fluorotetradecanoic acid
Jürgen Martens, Jürgen Kintscher und **Wolfgang Arnold**	7029	Synthese und Stereochemie von neuen 2-substituierten 4-Thiazolidinylessigsäuren
René Csuk, Zhong Hu, Mohamed Abdou and **Christoph Kratky**	7037	Samarium diiodide promoted spirolactonization of cycloalkanones

Siméon Arséniyadis, Ricardo Rodriguez, Eduardo Cabrera, Adrian Thompson and **Guy Ourisson**	7045	Synthetic approaches to pentacyclic triterpenes of the arborane family
Frédéric Dolle, Charles Hetru and **Bang Luu**	7059	A new route to precursors of ecdysteroids using a regio- and stereoselective hydroboration
Frédéric Dolle, Charles Hetru, Jean-Pierre Roussel, Bernard Rousseau, Franck Sobrio, Bang Luu and **Jules A. Hoffmann**	7067	Synthesis of a tritiated 3-dehydroecdysteroid putative precursor of ecdysteroid biosynthesis in *Locusta migratoria*
P. Stampf, D. Herrmann, P. Bisseret and **M. Rohmer**	7081	2α-Methylhopanoids: first recognition in the bacterium *Methylobacterium organophilum* and obtention via sulphur induced isomerization of 2β-methylhopanoids. An account for their presence in sediments
Derek H. R. Barton, Jean Boivin, Elisabeth Crépon, Jadab Sarma, Hideo Togo and **Samir Z. Zard**	7091	Decarboxylative radical addition to vinylsulphones and vinylphosphonium bromide: some further novel transformations of geminal (pyridine-2-thiyl) phenylsulphones
Maria De Bernardi, Luigi Garlaschelli, Lucio Toma, Giovanni Vidari and **Paola Vita-Finzi**	7109	Fungal metabolites—XXVI. The structure of saponaceolides B, C and D, new C-30 terpenoids from *Tricholoma saponaceum*
Mukund K. Gurjar, Manjunath N. Bhanu, Vivek B. Khare, Ashok Bhandari, Madhusudhan N. Deshmukh and **A. V. Rama Rao**	7117	1β-Methylthienamycin: some stereocontrolled approaches towards the key intermediate
Marina Della Greca, Pietro Monaco and **Lucio Previtera**	7129	New oxygenated sterols from the weed *Eichhornia crassipes* Solms
András Földesi, Peter Agback, Corin Glemarec and **Jyoti Chattopadhyaya**	7135	Synthesis of tetrameric branched RNA-DNA conjugate and branched-RNA analogue and their comparative conformational studies by 500 MHz NMR spectroscopy
Ioannis M. Takakis, Phaedon M. Hadjimihalakis and **Georgia G. Tsantali**	7157	Influence of the heterocyclic side ring during the Boulton-Katritzky rearrangement of 1,2-alkylenedioxy-nitrobenzofuroxans
Neil R. Curtis, Andrew B. Holmes and **Mark G. Looney**	7171	Studies towards the synthesis of obtusenyne. A Claisen rearrangement approach to unsaturated nine-membered lactones
Keith Jones and **King-Chung Woo**	7179	A total synthesis of (–)-ruspolinone
Giuseppe Capozzi, Luciano Gori and **Stefano Menichetti**	7185	Phthalimidosulphenyl chloride—II. Synthesis of unusual thiirane derivatives
	I	Instructions to Contributors

NUMBER 35

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	In Memoriam—Toshio Goto 1929-1990
	vii	Graphical Abstracts
	7197	Corrigendum
María del Carmen Fernández, Baldomero Esquivel, Jorge Cárdenas, Ana Adela Sánchez, Ruben Alfredo Toscano and **Lydia Rodríguez-Hahn**	7199	Clerodane and aromatic seco-clerodane diterpenoids from *Salvia rhyacophila*
Steven J. Gould, Rodney L. Eisenberg and **Larry R. Hillis**	7209	Synthesis directed towards putative advanced intermediates in sarubicin A biosynthesis
Takashi Kakuno, Kazuko Yoshikawa, Shigenobu Arihara, Masao Takei and **Koichi Endo**	7219	Ilexosides E, F, G, H and I, novel 18,19-seco-ursane glycosides from fruit of *Ilex crenata*
Takeshi Sugai, Tomoki Yokochi, Naoyuki Watanabe and **Hiromichi Ohta**	7227	A synthetic study of (–)-dihydroedulan II and related compounds
Takeshi Sugai, Daisuke Sakuma, Naoki Kobayashi and **Hiromichi Ohta**	7237	A synthesis of (–)-sitophilate by utilizing yeast-mediated reduction of an enol ester
Kazuhiro Kobayashi, Akiyoshi Sasaki, Yoshikazu Kanno and **Hiroshi Suginome**	7245	A new route to γ-substituted γ-lactones and δ-substituted δ-lactones based on the regioselective β-scission of alkoxyl radicals generated from transannular hemiacetals
Kin-ichi Tadano, Akiko Miyake and **Seiichiro Ogawa**	7259	Pd(II)-Mediated intramolecular acetal formation applied to a substrate prepared from D-glucose: a formal synthesis of enantiomeric paniculide B
Masayuki Sato, Noritaka Kitazawa, Shinya Nagashima, Chikara Kaneko, Naoko Inoue and **Toshio Furuya**	7271	Chiral spirocyclic (*Z*)-5-arylmethylene-1,3-oxazine-4,6-diones, new chiral heterodienes
M. Avignon-Tropis, M. Treilhou, J. R. Pougny, I. Fréchard-Ortuno and **G. Linstrumelle**	7279	Total synthesis of (+)-leukotriene B_4 methyl ester and its 5-epimer from (R)-glycidol
Jean-Claude Gramain, Sylvie Mavel, Yves Troin et **Danielle Vallée-Goyet**	7287	Photocyclisation de *N*-benzoylénamines. Synthèses de spirocyclohexanes en série isoquinoléine
Jean-Claude Gramain, Yves Troin et **Danielle Vallée-Goyet**	7301	Photocyclisation de *N*-aroylénamines derivées d'acides carboxyliques hétéroaromatiques. Synthèses de spirocyclohexyl piperidines accolées à un hétérocycle

Antoinette Viger, Suzy Coustal, Philippe Schambel and **Andrée Marquet**	7309	Synthesis of 18-substituted androst-4-en-3-one derivatives as potential inhibitors of aldosterone biosynthesis
Yves Bessard and **Manfred Schlosser**	7323	*gem*-Difluorocyclopropenes by [1+2] cycloaddition reactions between difluorocarbene and acetylenes having terminal or internal triple bonds
María P. Matia, Jesús Ezquerra, Francisco Sánchez-Ferrando, José L. García-Navío, Juan J. Vaquero and **Julio Alvarez-Builla**	7329	New uses of the Westphal condensation. Synthesis of pi-donor-pi-acceptor heterocycles
F. Coppa, F. Fontana, F. Minisci, M. C. Nogueira Barbosa and **E. Vismara**	7343	Homolytic alkylation of naphthoquinone and methyl-naphthoquinone. Enthalpic, steric and polar effects
Giorgio Cevasco, Silvana Penco, Sergio Thea and **Vilma Busetti**	7353	Cyclic tetramers from 3,5-disubstituted 4-hydroxybenzenesulfonyl chlorides. Their synthesis and characterization
Anna Bernardi, Oliviero Carugo, Alessandra Pasquarello, Atanas Sidjimov and **Giovanni Poli**	7357	Asymmetric hydrogenation of 3-methyl-fumaric and maleic ester monoaldehydes protected as NEPH-derived oxazolidines
Janez Plavec, Leo H. Koole, Anders Sandström and **Jyoti Chattopadhyaya**	7363	Structural studies of anti-HIV 3′-α-fluorothymidine and 3′-α-azidothymidine by 500 MHz ^{1}H-NMR spectroscopy and molecular mechanics (MM2) calculations
James R. Bull and **Lynne M. Steer**	7377	Chemoselective reactions of 14,17α-bis(hydroxymethyl)-3-methoxyestra-1,3,5(10)-trien-17β-ol. Synthesis of novel 14,17-hetero-bridged 19-norsteroids
Paolo Ceccherelli, Massimo Curini, Maria Carla Marcotullio and **Ornelio Rosati**	7403	Regiocontrol by the carbon-carbon double bond in the $Rh_2(OAc)_4$ mediated carbon-hydrogen insertion of α-diazo-ketones
A. J. M. Janssen, A. J. H. Klunder and **B. Zwanenburg**	7409	PPL-Catalyzed resolution of 1,2- and 1,3-diols in methyl propionate as solvent. An application of the tandem use of enzymes
Adele Bolognese, M. Vittoria Diurno, Orazio Mazzoni and **Federico Giordano**	7417	On the azetidin-2-one ring formation. A ^{1}H NMR investigation
Viesturs Lūsis, Dzintra Muceniece, Vladislavs Stonkuss and **Gunārs Duburs**	7429	Synthesis and isomerization of 1H-4,4a,5,9b-tetrahydroindeno-[1,2-*b*]pyridines
Manuel Norte, Rafael González, José J. Fernández and **Manuel Rico**	7437	Okadaic acid: a proton and carbon NMR study
Andrei A. Gakh, Sergei V. Romaniko, Bogdan I. Ugrak and **Albert A. Fainzilberg**	7447	N-Fluorination with cesium fluoroxysulfate

A. Marcos, C. Pedregal and **C. Avendaño**	7459	Reactivity of 4(7)-aminobenzimidazole as a bidentate nucleophile
Lodovico Lunazzi, Daniele Casarini, Mauro A. Cremonini and **J. Edgar Anderson**	7465	The effect of exocyclic conjugation on the inversion of a saturated six-membered ring. A dynamic NMR study of N-substituted morpholines
Francisco Alonso and **Miguel Yus**	7471	Stereoselective two-step chemical preparation of 1,4-dialkyl-1,4-dimethoxycyclohexa-2,5-dienes
Dario Landini, Angelamaria Maia, Luciana Corda, Antonio Maccioni and **Gianni Podda**	7477	Catalytic activity of cyclophosphazenic polypodands in phase-transfer reactions. Comparison with open-chain analogues
E. Epifani, S. Florio, G. Ingrosso, L. Ronzini, R. Sgarra and **L. Troisi**	7489	Regio- and stereo-chemistry of the coupling reaction of phenylsulphenyl-, phenylsulphinyl- and phenylsulphonyl-pentadienyl metals
	I	Instructions to Contributors

NUMBER 36

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
	7501	Corrigendum
		TETRAHEDRON REPORT NUMBER 297
Fred H. van der Steen and **Gerard van Koten**	7503	Syntheses of 3-amino-2-azetidinones: a literature survey
Marcus E. Brewster, Daniel R. Doerge, Ming-Ju Huang, James J. Kaminski, Emil Pop and **Nicholas Bodor**	7525	Application of semiempirical molecular orbital techniques to the study of peroxidase-mediated oxidation of phenols, anilines, sulfides and thiobenzamides
Norton P. Peet, Edward W. Huber and **Robert A. Farr**	7537	Diastereoselectivity in the intramolecular nitrone, oxime, and nitrile oxide cycloaddition reactions. Synthesis of amino inositol derivatives as α-glucosidase inhibitors
Ken S. Rehder and **William Reusch**	7551	Thermal reactions of a 2-aryl-1-vinylcyclobutanol
Frank VanMiddlesworth, Claude Dufresne, Jack Smith and **Kenneth E. Wilson**	7563	Structure elucidation of L-687,781, a new β-1,3-D-glucan synthesis inhibitor
Fritz Theil, Hans Schick, Gabriele Winter and **Günter Reck**	7569	Lipase-catalyzed transesterification of *meso*-cyclopentane diols
Ulrich Groth, Thomas Köhler and **Thomas Taapken**	7583	Zinc(II)-chloride induced thioalkylation of aluminium enolates; enantioselective synthesis of estradiol-3-methyl-17-*tert*-butyl diether

Hans-Dieter Franken, Heinz Rüterjans and **Franz Müller**	7593	The structure of barbituric acid and its 5,5-diethyl derivative as revealed by ^{15}N nuclear magnetic resonance techniques
Solange Adam	7609	A straightforward and high yielding synthesis of mefloquine—II
Kazuaki Okabe and **Mitsutaka Natsume**	7615	The second generation synthesis of a tumor promoter pendolmycin
Junzo Otera, Yoshihisa Niibo and **Hitosi Nozaki**	7625	Oxirane ring-opening with alcohol catalyzed by organotin phosphate condensates. Complete inversion at tertiary and benzylic centers
Hiroki Takahata, Yasunori Banba and **Takefumi Momose**	7635	An asymmetric total synthesis of (−)-supinidine
A. J. M. Janssen, A. J. H. Klunder and **B. Zwanenburg**	7645	Resolution of secondary alcohols by enzyme-catalyzed transesterification in alkyl carboxylates as the solvent
José Marco-Contelles and **Angeles Martínez-Grau**	7663	Carbocycles from carbohydrates: synthesis of some poly-functionalized cyclohexane derivatives. Preparation of useful chiral building blocks
Ferenc Fülöp, Imre Huber, Ágnes Szabó, Gábor Bernáth and **Pál Sohár**	7673	Synthesis of pyrimido[2,1-*b*]thiazin-6-one by retro Diels-Alder reaction
Giovanna Barbarella, Alessandro Bongini, Bianca F. Bonini, Massimo Zambianchi and **Paolo Zani**	7677	Conformation and configurational assignment of *cis* and *trans* 3,4-dimethyl-6-*t*-butyl-5,6-dihydro-2*H*-thiopyran-S-oxides and S-methyl cations
Lionel R. Milgrom and **William D. Flitter**	7683	Facile aerial oxidation of a porphyrin—VIII. Decay of radical formed during the aerial oxidation of *meso*-tetrakis(3,5-di-*t*-butyl-4-hydroxyphenyl)porphyrin
Reena Chakraborty and **Nigel S. Simpkins**	7689	Cyclisation chemistry of some functionalised allylsilanes
Marina Burdisso and **Remo Gandolfi**	7699	Diastereofacial selectivity in 1,3-dipolar cycloadditions. Reactions of diazomethane with *endo,cis*-5,6-disubstituted bicyclo[2.2.2]oct-2-enes
C. Bernaus, J. Font and **P. de March**	7713	Synthesis of 2*H*,4*H*,9b*H*-furo[3,2-*c*][1]benzopyrans by a new intramolecular cycloaddition of a carbonyl ylide to an acetylene
Abdulrahman H. Al-Husaini, Mohammed Muqtar and **Sk. Asrof Ali**	7719	Study of ketene-alkene cycloadditions and cycloreversions of cyclobutanones
	I	Instructions to Contributors

NUMBER 37

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
William F. Bailey and **Atmaram D. Khanolkar**	7727	Construction of a sterically congested carbon framework via 5-hexenyllithium cyclization. Synthesis of (±)-cuparene

Rosanne Bonjouklian, Tim A. Smitka, Larry E. Doolin, R. Michael Molloy, Manuel Debono, Stacey A. Shaffer, Richard E. Moore, Jeffrey B. Stewart and **Gregory M. L. Patterson**	7739	Tjipanazoles, new antifungal agents from the blue-green alga *Tolypothrix tjipanasensis*
Donald Poirier, Yves Mérand and **Fernand Labrie**	7751	Synthesis of 17β-estradiol derivatives with N-butyl, N-methyl alkylamide side chain at position 15
Frédérique Tellier, Charles Descoins and **Raymond Sauvêtre**	7767	Stereospecific synthesis of 1,5-dien-3-ynes and 1,3,5-trienes. Application to the stereochemical identification of trienic sex pheromones
J. Cossy, A. Bouzide, S. Ibhi and **P. Aclinou**	7775	Formation of β-hydroxyketones from α,β-epoxyketones by photo-induced single electron transfer reactions
Goverdhan Mehta and **S. Padma**	7783	Synthetic studies towards prismanes: seco-[6]-prismane
Goverdhan Mehta and **S. Padma**	7807	Synthetic studies towards prismanes: 1,4-bishomo-[6]-prismane ('Garudane')
Goverdhan Mehta, S. Hari Krishna Reddy and **S. Padma**	7821	Synthetic studies towards prismanes: exploratory efforts en route to [7]-prismane homo- and secologues
Imre Kovács, Pál Herczegh and **Ferenc J. Sztaricskai**	7837	Tartraldehydes—III. Synthesis of N-benzoyl-L-ristosamine and -L-acosamine
Giancarlo Verardo, Angelo G. Giumanini and **Paolo Strazzolini**	7845	N-Dealkylation-N-nitrosation of tertiary aromatic amines by *n*-butyl nitrite
Maxwell J. Gunter, Byron C. Robinson, Jacqueline M. Gulbis and **Edward R. T. Tiekink**	7853	5,15-Diaryl substituted benzochlorins—synthesis and structure
Michael G. Hutchings, A. Margaret Chippendale, Renuka Shukla and **Mary McPartlin**	7869	Alkoxide-induced ring-opening of methoxymethylidene-substituted homophthalic anhydride—II. Structure and conformational analysis of the dihydroisocoumarin products
José Barluenga, Luján Llavona, Miguel Yus and **José M. Concellón**	7875	Reactivity of *in situ* generated dihalomethyllithium towards dicarboxylic acid diesters and lactones: synthetic applications
Mario Aquino, Silvia Cardani, Giovanni Fronza, Claudio Fuganti, Rosalino Pulido Fernandez and **Auro Tagliani**	7887	Baker's yeast reduction of arylalkyl and arylalkenil γ- and δ-keto acids
Rita Annunziata, Mauro Cinquini, Franco Cozzi, Pier Giorgio Cozzi and **Emanuela Consolandi**	7897	Diastereoselective aldol condensation of directly generated titanium enolates of activated esters

Josep Castells, Yves Troin, Anna Diez, Mario Rubiralta, David S. Grierson and **Henri-Philippe Husson** — 7911 Synthesis and reactivity of 2-(1,3-dithian-2-yl)indoles—IV. Influence of the *N,N*-diethylcarbamoyl indole protecting group

Anna Bernardi, Marcello Cavicchioli, Giovanni Poli, Carlo Scolastico and **Atanas Sidjimov** — 7925 Highly stereoselective acetylations via norephedrine derived oxazolidines

Anna Migliuolo, Vincenzo Piccialli and **Donato Sica** — 7937 Structure elucidation and synthesis of 3β,6α-dihydroxy-9-oxo-9,11-seco-5α-cholest-7-en-11-al, a novel 9,11-secosterol from the sponge *Spongia officinalis*

Robert W. Baker, John R. Knox and **Dan H. Rogers** — 7951 Structural parallels between the cardiotonic steroids and the *Erythrophleum* alkaloids—I. Synthesis of phenanthrenone precursors to novel *Erythrophleum* alkaloid analogues

Robert W. Baker, John R. Knox, Brian W. Skelton and **Alan H. White** — 7965 Structural parallels between the cardiotonic steroids and the *Erythrophleum* alkaloids—II. Synthesis and Na^+,K^+-ATPase inhibitory activity of novel *Erythrophleum* alkaloid analogues

Inderjit S. Mann, David A. Widdowson and **John M. Clough** — 7981 Transition metal directed synthesis of moracin M, a phytoalexin of *Morus alba* Linn.

Inderjit S. Mann, David A. Widdowson and **John M. Clough** — 7991 Transition metal mediated synthesis of some prenylated phytoalexins of *Morus alba* Linn.

Robert Ramage, Alexander J. Blake, Michael R. Florence, Thomas Gray, Gilles Raphy and **Peter L. Roach** — 8001 A base labile protecting group for peptide synthesis: 2,2-bis(4'-nitrophenyl)ethan-1-oxycarbonyl urethanes

Gloria Rassu, Pietro Spanu, Giovanni Casiraghi and **Luigi Pinna** — 8025 Highly stereoselective total synthesis of octopyranose derivatives

María E. Lloris, Nicanor Gálvez, Jorge Marquet and **Marcial Moreno-Mañas** — 8031 Reactions of copper(II) β-diketonates under free radical conditions. Preparation of highly congested β-diketones

I Instructions to Contributors

NUMBER 38

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 298

Alexander A. Kutyrev — 8043 Nucleophilic reactions of quinones

Yasuhiro Torisawa, Akihiro Hashimoto, Masako Nakagawa, Hiroko Seki, Ritsuko Hara and **Tohru Hino**	8067	A total synthesis of manzamine C and its geometrical isomer
Shigetoshi Tsubotani, Yasunori Funabashi, Masayuki Takamoto, Seiji Hakoda and **Setsuo Harada**	8079	A novel amino acid antibiotic TAN-950
Wha Suk Lee, Koo Lee, Kee Dal Nam and **Yang Joon Kim**	8091	Rearrangement mechanisms of 1,3-dithiolane sulfoxides
Naoyuki Kishi, Koichi Mikami and **Takeshi Nakai**	8111	Vinylsilane-terminated cycloacylation: a general synthetic approach to four- to six-membered cyclic ketones and its regiochemical features
Gábor Tóth, Albert Lévai, Zoltán Dinya and **Günther Snatzke**	8119	Thermal decomposition of some new spiro-1-pyrazolines
Elmar Vilsmaier, Claus Tetzlaff, Volker Butz and **Gerhard Maas**	8133	Functionalized chloroenamines in aminocyclopropane synthesis—VIII. Amino-azabicyclo[3.1.0]hexane diastereomers from chloroenamines and -borohydride
Thomas Netscher and **Thomas Weller**	8145	The TDE sulfenyl group as a protective group for amines
Thomas Schmidt	8155	Olefins by transition metal catalyzed elimination reactions from tertiary alcohols and acetates
Marie-Christine Labille, Zdenek Janousek and **Heinz G. Viehe**	8161	Synthesis and reactivity of captodative cyanoketenes
Bruno Bienfait, Geneviève Coppe-Motte, Robert Merényi, Heinz G. Viehe, Willi Sicking and **Reiner Sustmann**	8167	β-Cyanocyclobutenone as a highly reactive dienophile in comparison to β-cyanocyclopentenone
Aziza Benalil, Bertrand Carboni and **Michel Vaultier**	8177	Synthesis of 1,2-aminoazides. Conversion to unsymmetrical vicinal diamines by catalytic hydrogenation or reductive alkylation with dichloroboranes
Diego Cortes, Saw H. Myint and **Reynald Hocquemiller**	8195	Molvizarin and motrilin: two novel cytotoxic bis-tetrahydrofuranic γ-lactone acetogenins from *Annona cherimolia*
Jack E. Baldwin, Mark Bradley, Nicholas J. Turner, Robert M. Adlington, Andrew R. Pitt and **Helen Sheridan**	8203	Synthesis of δ-L-α-aminoadipoyl-L-cysteinyl-D-allylglycine, and eight deuterated analogues, substrates for the investigation of the mechanism of action of isopenicillin N synthase
Jack E. Baldwin, Mark Bradley, Nicholas J. Turner, Robert M. Adlington, Andrew R. Pitt and **Andrew E. Derome**	8223	Enzymic conversion of deuterated analogues of δ-L-α-aminoadipoyl-L-cysteinyl-D-allylglycine, an unnatural substrate for isopenicillin N synthase: a unified theory of second ring closure

Fathy A. Khalifa, Nabila A. Ismail, Ahmed H. H. Elghandour and **Hussein F. Zohdi** 8243 Benzoin in heterocyclic synthesis: synthesis and reactions of 4-cyano-2,3-diphenyl-2H-pyrrol-5-thione

Giorgio Chelucci, Sandra Conti, Massimo Falorni and **Giampaolo Giacomelli** 8251 Chiral ligands containing heteroatoms—VIII. 2-[(2*S*)-2-Pyrrolidinyl]pyridine as a novel catalyst in the enantioselective addition of diethylzinc to aldehydes

Harikisan R. Sonawane, Vishwaniyant G. Naik, Nanjundiah S. Bellur, Virendra G. Shah, Pramod C. Purohit, M. Uday Kumar, Dilip G. Kulkarni and **Jaimala R. Ahuja** 8259 Photoinduced vinylcyclopropane-cyclopentene rearrangement: a methodology for chiral bicyclo[3.2.0]heptenes. Formal syntheses of (±)-grandisol and naturally occurring (–)-$\Delta^{9(12)}$-capnellene and its antipode

Panchagnula Satyanarayana, Somepalli Venkateswarlu and **Kamma N. Viswanatham** 8277 Oxidative aryl-aryl, aryl-benzyl coupling of lignans—reactions of phyllanthin and haloderivatives with TTFA, DDQ, Li/THF)))): synthesis of dibenzocyclooctadiene system and phyltetralin

Steven V. Ley, Mark L. Trudell and **David J. Wadsworth** 8285 The total synthesis of agglomerin A and (±)-carolinic acid. A general method for the preparation of 3-acyl tetronic acids via direct acylation of O-methyl 3-stannyl tetronates

Ronald Grigg, Michael J. Dorrity, Frances Heaney, John F. Malone, Shuleewan Rajviroongit, Visuvanathar Sridharan and **Sivagnanasundram Surendrakumar** 8297 X=Y—ZH Systems as potential 1,3-dipoles—XXXIV. Generation of nitrones from oximes. Tandem Michael addition-1,3-dipolar cycloaddition reactions. Class 2 processes utilising bifunctional Michael acceptor-dipolarophile components

I Instructions to Contributors

NUMBER 39

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

Daniel Rousselle, Eric Francotte, Jeannine Feneau-Dupont, Bernard Tinant, Jean P. Declercq and **Heinz G. Viehe** 8323 Epoxy-epimination of cyclic conjugated dienes—VII. Cycloaddition of nitroso-halogenobenzenes to cyclopentadiene followed by rearrangement to epoxy-epimino- and γ-δ-epiminopentadienal derivatives via N-O and C-C bond breaking

Armelle Magot-Cuvru, Luis Blanco and **Jacques Drouin** 8331 Conjugate addition of Grignard reagents to α,β-unsaturated esters: preparation of alkylsilylketeneacetals

Gérard Aranda, Mohammed Samir El Kortbi, Jean-Yves Lallemand, Alain Neuman, Abderrahmane Hammoumi, Isabelle Facon and **Robert Azerad** 8339 Microbial transformation of diterpenes: hydroxylation of sclareol, manool and derivatives by *Mucor plumbeus*

Katrin Borgschulte, Sylvie Rebuffat, Wolfram Trowitzsch-Kienast, Dietmar Schomburg, Jean Pinon and **Bernard Bodo** 8351 Isolation and structure elucidation of hymatoxins B-E and other phytotoxins from *Hypoxylon mammatum* fungal pathogen of Leuce poplars

Aryeh A. Frimer, Shlomo Ripstos, Vered Marks, Gladis Aljadeff, Judith Hameiri-Buch and **Pessia Gilinsky-Sharon**	8361	The photosensitized oxidation of α-keto enols: a singlet oxygen approach to 2-oxasteroids
Frans J. C. Martins, Agatha M. Viljoen, Stefanus J. Strydom, Louis Fourie and **Philuphus L. Wessels**	8373	Photolysis of 3,3′-diamino-2,2′-bi-1,4-naphthoquinonyl
Leo C. Groenen, Bianca H. M. Ruël, Alessandro Casnati, Willem Verboom, Andrea Pochini, Rocco Ungaro and **David N. Reinhoudt**	8379	Synthesis of monoalkylated calix[4]arenes via direct alkylation
Stefano Colonna, Nicoletta Gaggero, Mario Leone and **Piero Pasta**	8385	Enantioselective oxidation of sulphides to sulphoxides in the presence of bovine serum albumin
G. Desimoni, G. Faita, P. P. Righetti and **G. Tacconi**	8399	Lithium perchlorate catalysis of the hetero Diels-Alder reaction: a specific lithium cation effect
B. Šušković, Z. Vajtner and **R. Naumski**	8407	Synthesis and biological activities of some peptidoglycan monomer derivatives
Michael J. Begley, Neil Housden, Amanda Johns and **John A. Murphy**	8417	Intramolecular reactions of allyloxy radicals featuring six-centred transition states; regiochemistry and stereochemistry
Martin J. Wanner and **Gerrit-Jan Koomen**	8431	Biomimetic synthesis of quinolizidine alkaloids
Renzo Rossi, Adriano Carpita, Maurizio Ciofalo and **Vito Lippolis**	8443	Selective and efficient syntheses of phototoxic 2,2′:5′,2″-terthiophene derivatives bearing a functional substituent in the 3′- or the 5-position
	I	Instructions to Contributors

NUMBER 40

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
	8461	Corrigendum
		TETRAHEDRON REPORT NUMBER 299
Neil S. Isaacs	8463	The role of high pressure methods in organic chemistry
Grant R. Krow, Yoon B. Lee, Ramesh Raghavachari, Steven W. Szczepanski and **Peter V. Alston**	8499	Azatricycles from substituted pyridines. Synthesis and rearrangement of N-ethoxycarbonyl-2-azatricyclo[4.3.1.$0^{3,7}$]dec-8-enes

Fekadu Fullas, Raouf A. Hussain, Eugenia Bordas, John M. Pezzuto, Djaja D. Soejarto and **A. Douglas Kinghorn** 8515 Gaudichaudiosides A–E, five novel diterpene glycoside constituents from the sweet-tasting plant, *Baccharis gaudichaudiana*

Takayoshi Yamamoto, Hiroshi Suemune and **Kiyoshi Sakai** 8523 An insight into the novel ring transformation reactions using ethylene glycol/BF_3

Hideyuki Shigemori, Shinobu Wakuri, Kazunaga Yazawa, Takemichi Nakamura, Takuma Sasaki and **Jun'ichi Kobayashi** 8529 Fellutamides A and B, cytotoxic peptides from a marine fish-possessing fungus *Penicillium fellutanum*

Hideaki Muratake and **Mitsutaka Natsume** 8535 Synthesis of teleocidins A, B and their congeners—I. An efficient synthesis method of *N*-(7-alkyl-4-indolyl)-*N*-methyl-L-valine esters, essential intermediates for teleocidin synthesis

Hideaki Muratake, Kazuaki Okabe and **Mitsutaka Natsume** 8545 Synthesis of teleocidins A, B and their congeners—II. Synthesis of lyngbyatoxin A (teleocidin A-1), teleocidin A-2, pendolmycin, and (*R,E*)- and (S,*E*)-7-(3,7,11-trimethyl-1,6,10-dodecatrien-3-yl)-(–)-indolactams V

Kazuaki Okabe, Hideaki Muratake and **Mitsutaka Natsume** 8559 Synthesis of teleocidins A, B and their congeners—III. Synthesis of dihydroteleocidin B-4 (dihydroteleocidin B), teleocidin B-3 and teleocidin B-4

Norbert Haider, Gottfried Heinisch and **Jöran Moshuber** 8573 Pyridazines—LXI. Unexpected reaction behaviour of pyridazine-carbonitrile derivatives towards phenylmagnesium chloride

Tarik N. Rawdah 8579 NMR Spectroscopic study of the conformational features of cyclododecanone

Bhabani K. Sarmah and **Nabin C. Barua** 8587 Al-$NiCl_2.6H_2O$-THF: a new, mild and neutral system for selective reduction of organic functional groups

P. L. Majumder and **Mausumi Basak** 8601 Novel oxidative phenol-coupling reaction with phosphomolybdic acid on silica gel support: regioselective biomimetic synthesis of dimeric phenanthrene derivatives

Eino Vuorinen, Anthony A. Chalmers, Jan L. M. Dillen and **Tomasz A. Modro** 8611 Benzo[*b*]thiophenium S,C-ylides: preparation, structure and comparison with thiophenium analogues

Michael J. Dickens, John P. Gilday, Timothy J. Mowlem and **David A. Widdowson** 8621 Transition metal mediated thiation of aromatic rings

Yasumasa Hamada, Osamu Hara, Akiyoshi Kawai, Yasushi Kohno and **Takayuki Shioiri** 8635 Efficient total synthesis of AI-77-B, a gastroprotective substance from *Bacillus pumilus* AI-77

I Instructions to Contributors

NUMBER 41

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

xi Tetrahedron Prize for Creativity in Organic Chemistry

Arun Ghosh, Wuyi Wang, Jeremiah P. Freeman, John S. Althaus, Philip F. Von Voigtlander, Terrence A. Scahill, Stephen A. Mizsak and **Jacob Szmuszkovicz** 8653 Stereocontrolled syntheses of some conformationally restricted analogs of serotonin

Barry B. Snider and **John E. Merritt** 8663 Formation of seven- and eight-membered rings by Mn(III)-based oxidative free-radical cyclization

Winston F. Tinto, Lisa John, William F. Reynolds and **Stewart McLean** 8679 Novel pseudopteranoids of *Pseudopterogorgia acerosa*

Wayne F. K. Schnatter, Örn Almarsson and **Thomas C. Bruice** 8687 The synthesis of a porphyrin with a hydrocarbon encapsulated face

Hidenori Danda, Toshio Nagatomi, Akira Maehara and **Takeaki Umemura** 8701 Preparation of optically active secondary alcohols by combination of enzymatic hydrolysis and chemical transformation

Osamu Sakatsume, Tohru Yamaguchi, Masahide Ishikawa, Ichiro Hirao, Kin-ichiro Miura and **Hiroshi Takaku** 8717 Solid phase synthesis of oligoribonucleotides by the phosphoramidite approach using 2′-O-1-(2-chloroethoxy)ethyl protection

Bert Steffan 8729 Lepadin A, a decahydroquinoline alkaloid from the tunicate *Clavelina lepadiformis*

C. Karunakaran and **P. Manimekalai** 8733 Kinetics and mechanism of perborate oxidation of organic sulphides

Carlo Canepa, Glauco Tonachini and **Paolo Venturello** 8739 Regioselectivity in lithium, sodium and potassium chloroallyl systems. An *ab initio*-theoretical and experimental study

Javed Iqbal and **Alka Shukla** 8753 High diastereofacial selectivity in the reaction of silyl enol ethers with chlorosulfides

Mauro Cinquini, Franco Cozzi, Pier Giorgio Cozzi and **Emanuela Consolandi** 8767 Mild and convenient one-pot synthesis of β-lactams by condensation of titanium enolates of 2-pyridylthioesters with imines

V. Branchadell, J. Font, A. Oliva, J. Ortí, R. M. Ortuño, S. Rafel, N. Terris and **M. Ventura** 8775 5-Ylidene-2(5*H*)-furanones as dienophiles in Diels-Alder cycloadditions: effect of the substituents on the site-selectivity

Malcolm J. Thompson and **Petrus J. Zeegers** 8787 Two-phase nitration of phenols—III. The nitration of anisole

I Instructions to Contributors

NUMBER 42

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

TETRAHEDRON REPORT NUMBER 300

Madeleine M. Joullié, Tracy R. Thompson and **Norman H. Nemeroff** 8791 Ninhydrin and ninhydrin analogs. Syntheses and applications

---

R. Alan Chrusciel, Ludwig Bauer, JoAnne M. Kaminski and **Lourens J. D. Zaneveld** 8831 4-Acetamidophenyl esters and 4-acetamidoanilides of L-arginine, *p*-guanidino-L-phenylalanine, L-lysine, N^2-[D-fructos-3-*O*-yl and D-glucos-3-*O*-yl]acetyl-L-lysine as potential acrosin inhibitors

Michael Harmata and **Barry F. Herron** 8855 The conversion of benzothiazines to 2-alkenyl anilines

Yizhen Sun, Arthur E. Martell and **Michael J. Welch** 8863 Synthesis of new multidentate ligands for the coordination of indium(III), gadolinium(III) and thorium(IV)

Masatoshi Takagi and **Keiji Yamamoto** 8869 Carbamate-directed stereoselective hydrogenation and kinetic resolution of *N*-protected α-(α-aminoalkyl)acrylates

Yashwant D. Vankar, Kavita Shah, Anita Bawa and **Surendra P. Singh** 8883 Chemistry of α-nitroepoxides: synthesis of useful intermediates via nucleophilic ring opening of α-nitroepoxides

Francesca Clerici, Elena Folpini, Maria L. Gelmi and **Donato Pocar** 8907 5-Oxazolones—V. Reaction of 4-alkylidene-5(4H)-oxazolones with ethyl 3-oxo-4-triphenylphosphoranylidene-butyrate

Dolors Fernandez-Forner, Ramon Eritja, Francesc Bardella, Catalina Ruiz-Perez, Xavier Solans, Ernest Giralt and **Enrique Pedroso** 8917 Preparation of oligonucleotides containing dAICA using an unexpected side-reaction observed on a protected derivative of 2-aza-2′-deoxyinosine

Panchagnula Satyanarayana and **Somepalli Venkateswarlu** 8931 Isolation, structure and synthesis of new diarylbutane lignans from *Phyllanthus niruri*: synthesis of 5′-desmethoxy niranthin and an antitumour extractive

I Tetrahedron Reports

XVII Instructions to Contributors

NUMBER 43

i Contents in Softstrip format

iii Contributors to this issue

v Graphical Abstracts

8941 Corrigendum

Khisal A. Alvi, Phil Crews, Bill Aalbersberg and **Regina Prasad** 8943 Limonoids from the Fijian medicinal plant dabi (*Xylocarpus*)

Vasu Nair, Arthur G. Lyons and **David F. Purdy** 8949 Novel dideoxynucleoside isosteres

Derek H. R. Barton, Paul Blundell, Joseph Dorchak, Doo Ok Jang and **Joseph Cs. Jaszberenyi**	8969	The invention of radical reactions—XXI. Simple methods for the radical deoxygenation of primary alcohols
Yoshihiko Nishibata and **Akiko Itai**	8985	Automatic creation of drug candidate structures based on receptor structure. Starting point for artificial lead generation
G. Frenking, K. F. Köhler and **M. T. Reetz**	8991	On the origin of π-facial diastereoselectivity in nucleophilic additions to chiral carbonyl compounds—I. Rotational profiles of propionaldehyde 1, chloroacetaldehyde 2, and 2-chloropropionaldehyde 3
G. Frenking, K. F. Köhler and **M. T. Reetz**	9005	On the origin of π-facial diastereoselectivity in nucleophilic additions to chiral carbonyl compounds—II. Calculated transition state structures for the addition of nucleophiles to propionaldehyde 1, chloroacetaldehyde 2, and 2-chloropropionaldehyde 3
Anita Schummer, Hongtao Yu and **Helmut Simon**	9019	Polyfunctional (*R*)-2-hydroxycarboxylic acids by reduction of 2-oxo acids with hydrogen gas or formate and resting cells of *Proteus vulgaris*
Hongtao Yu and **Helmut Simon**	9035	Hydroxylation of and halogen addition to the carbon carbon double bond of (*R*)-2-hydroxy-3-enoic acids
Christian Lambert and **Léon Christiaens**	9053	Stabilisation of condensed selenium heterocycles by a nitro group in the *ortho*-position to the chalcogen
Patrizia Andreoli, Laura Billi, Gianfranco Cainelli, Mauro Panunzio, Elisa Bandini, Giorgio Martelli and **Giuseppe Spunta**	9061	β-Lactams from ester enolates and silylimines: an enantiospecific synthesis of monocyclic β-lactams
Nataša Zupančič and **Boris Šket**	9071	Photoreduction of 1,1-diphenyl-2-haloethenes by metal hydrides
K. Michal Pietrusiewicz, Iwona Salamonczyk, Wanda Wieczorek, Alberto Brandi, Stefano Cicchi and **Andrea Goti**	9083	Direct synthesis of isoxazolidinylphosphines by cycloaddition of nitrones to diphenylphosphinoethenes and X-ray structure of 7,7-dimethyl-1-oxo-1-phenyl-3-diphenylphosphinyl-hexahydro-1H-pyrrolo [1,2-*c*][1,3,2] oxazaphosphorine
Augusto Gambacorta, Stefano Turchetta, Paolo Bovicelli and **Maurizio Botta**	9097	Synthesis of substituted *cis*-bicyclo[3.3.0]octane-1-carbonyl derivatives by stereospecific rearrangement of 1-chloro-9-hydroxybicyclo[3.3.1]nonanes
Andrés Garcia-Granados and **Andrés Parra**	9103	Rearrangement processes in the bicyclo[3.2.1]heptane moiety of 12,17-bifunctionalized *ent*-beyer-15-enes
Francisco Alonso and **Miguel Yus**	9119	Reactivity of 3,6-dimethoxy-3,6-dimethylcyclohexa-1,4-diene—III. Regioselective α-arylation of ketones via their silyl enol ethers
Lodovico Lunazzi, Giuseppe Placucci and **Dante Macciantelli**	9125	The conformational preferences of isomeric naphthaldehydes as determined by NOE experiments

I Instructions to Contributors

NUMBER 44

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
	9129	Corrigendum
		TETRAHEDRON REPORT NUMBER 301
P. Andrew Evans and **Andrew B. Holmes**	9131	Medium ring nitrogen heterocycles
Derek H. R. Barton, Joseph Cs. Jaszberenyi and **Emmanouil A. Theodorakis**	9167	O-Sulfinylation of alcohols with methanesulfonyl cyanide or *p*-toluenesulfonyl cyanide
Guido Bojack and **Hans Bornowski**	9179	First synthesis of the difuransesquiterpene athanasin and the elucidation of its relative and absolute configuration
N. Sam, B. Arreguy San-Miguel, M. Taran et **B. Delmond**	9187	Synthèse et réarrangement de l'époxy-8,14β pimarate de méthyle en vue d'accéder au squelette diterpénique cassane
Jean-Pierre Alazard, Anne Leboff et **Claude Thal**	9195	Alcaloïdes monoterpéniques—III. Synthèse stéréospécifique de la (±)*épi*-7,7a técomanine
Vicente Gotor, Rosario Brieva, Carmen González and **Francisca Rebolledo**	9207	Enzymatic aminolysis and transamidation reactions
Frans J. C. Martins, Agatha M. Viljoen, Marinda Coetzee, Louis Fourie and **Philuphus L. Wessels**	9215	The influence of hydrate formation on the Clemmensen reduction of pentacyclo[5.4.0.$0^{2,6}$.$0^{3,10}$.$0^{5,9}$]undecane-8,11-dione and pentacyclo[6.4.0.$0^{2,7}$.$0^{3,11}$.$0^{6,10}$]dodecane-9,12-dione
Maurizio D'Auria	9225	Photochemical synthesis of diindolylmethanes
Steven V. Ley, James C. Anderson, Wally M. Blaney, E. David Morgan, Richard N. Sheppard, Monique S. J. Simmonds, Alexandra M. Z. Slawin, Stephen C. Smith, David J. Williams and **Anthony Wood**	9231	Chemistry of insect antifeedants from *Azadirachta indica*—XI. Characterisation and structure activity relationships of some novel rearranged azadirachtins
Giovanni Fronza, Claudio Fuganti, Piero Grasselli, Rosalino Pulido-Fernandez, Stefano Servi, Auro Tagliani and **Marco Terreni**	9247	On the mode of baker's yeast reduction of enantiomeric 4-acyl butanolides
Esther Domínguez, Eduardo Martínez de Marigorta, Luisa Carrillo and **Roberto Fañanás**	9253	On the preparation and structural determination of 3-aryl-isoquinolinones
Patrick K. Loosen, Mayoka G. Tutonda, Masoumeh F. Khorasani, Frans Compernolle and **Georges J. Hoornaert**	9259	Cycloadducts of ethene with 2(1*H*)-pyrazinones and their conversion into 2,5-diazabicyclo[2.2.2]octane-3,6-diones

Patrick K. Loosen, Masoumeh F. Khorasani, Suzanne M. Toppet and **Georges J. Hoornaert**	9269	Cycloadducts of ethene with 2(1*H*)-pyrazinones functionalisation and reduction to 2,5-diazabicyclo[2.2.2]octan-3-ones
Salvatore Cabiddu, Liliana Contini, Claudia Fattuoni, Costantino Floris and **Gioanna Gelli**	9279	Metalation reactions—XVI. Polylithiation of 1,3,5- and 1,2,4-trimethoxybenzene
M. J. Climent, H. García, S. Iborra, M. A. Miranda and **J. Primo**	9289	Photolysis of cyclic enol esters in the presence or absence of a single electron transfer photosensitizer
Giovanni Petrillo, Marino Novi, Carlo Dell'Erba and **Cinzia Tavani**	9297	$S_{RN}1$ C-Arylation of phenols by azosulfides: a novel synthesis of dibenzo[*b,d*]pyran-6-ones
László Somogyi	9305	Reactions of flavonoid thiosemicarbazones under acetylating conditions
	I	Instructions to Contributors

NUMBER 45

	i	Announcement
	iii	Contents in Softstrip format
	v	Contributors to this issue
	vii	Graphical Abstracts
Itaru Hataue, Yasuo Oishi, Masaaki Kubota and **Hiroshi Fujimoto**	9317	Theoretical study of chemical interactions in crown ether-cation complexes
Masayuki Ito and **Chihiro Kibayashi**	9329	Total synthesis of (+)-monomorine I via nitrone cycloaddition route
Berthold Kettner, Franz Ledl, Holger Lerche and **Theodor Severin**	9351	5,6-Dihydro-3,5-dihydroxy-4H-pyridones—new Maillard products from 6-O-substituted hexoses and primary amines
Boris Schmidt and **H. Martin R. Hoffmann**	9357	On the way to aflatoxins and related structure types. Regio-controlled annulations by application of homogenous palladium catalysis, urethane tether and *ortho,ortho'*-diiodine effect
Yves Combret, Jean-Jacques Torché, Nelly Plé, Jack Duflos, Georges Dupas, Jean Bourguignon and **Guy Quéguiner**	9369	Stereoselectivity of hydrogen transfer with chiral NADH models as a function of configuration and conformation
Derek H. R. Barton, Stephane D. Géro, Béatrice Quiclet-Sire, Mohammad Samadi and **Claire Vincent**	9383	Synthesis of 5',8-cyclopurine and of 5',6-cyclodihydropyrimidine nucleosides using intramolecular radical cyclisation based on the aryl telluride radical exchange process
József Fetter, Tibor Czuppon, Gyula Hornyák and **Antal Feller**	9393	The synthesis of some 3-amino-2-halomethyl-, 2-halomethyl-3-(subst.amino)- and 2-halomethyl-3-hetarylquinazolin-4-(3*H*)-ones as potential plant protecting agents

Manuel Norte, Antonio G. González, Fernando Cataldo, Matías L. Rodríguez and **Iván Brito** — 9411 — New examples of acyclic and cyclic C-15 acetogenins from *Laurencia pinnatifida*. Reassignment of the absolute configuration for *E* and *Z* pinnatifidienyne

W. Nerinckx, P. J. De Clercq, C. Couwenhoven, W. R. M. Overbeek and **S. J. Halkes** — 9419 — An improved synthesis of 1α-hydroxy vitamin D_3

Peter J. Cremins, Roy Hayes and **Timothy W. Wallace** — 9431 — Heteroannulation of 4-oxo-4*H*-1-benzopyrans (chromones) via the conjugate addition of haloalkanols in the presence of base

Giancarlo Cavicchio, Valeria Marchetti, Alberto Arnone, Pierfrancesco Bravo and **Fiorenza Viani** — 9439 — Intramolecular trapping of difluoroalkyl radicals by tethered olefins in the asymmetric synthesis of 2,4-disubstituted-3,3-difluorotetrahydrofurans

Jubaraj B. Baruah and **Ashoka G. Samuelson** — 9449 — Allylic amination promoted by copper

Yury A. Strelenko, Vyacheslav V. Samoshin, Emmanuil I. Troyansky, Dmitry V. Demchuk, Gennady I. Nikishin and **Nikolay S. Zefirov** — 9455 — Conformational analysis of 2-alkyl-1,4-dithianes and related compounds by NMR spectroscopy and MMX

A. C. Serra, C. M. M. da Silva Corrêa and **M. L. C. do Vale** — 9463 — The effect of the carbonyl group in the cyclization of 1-hexenyl radicals

Michele Aresta and **Eugenio Quaranta** — 9489 — Mechanistic studies on the role of carbon dioxide in the synthesis of methylcarbamates from amines and dimethylcarbonate in the presence of CO_2

I — Instructions to Contributors

NUMBER 46

i — Announcement

iii — Contents in Softstrip format

v — Contributors to this issue

vii — Graphical Abstracts

TETRAHEDRON REPORT NUMBER 302

Daniel Romo and **A. I. Meyers** — 9503 — Chiral non-racemic bicyclic lactams. Vehicles for the construction of natural and unnatural products containing quaternary carbon centers

---

Ravindra K. Pandey, Fuu-Yau Shiau, Thomas J. Dougherty and **Kevin M. Smith** — 9571 — Regioselective syntheses of ether-linked porphyrin dimers and trimers related to Photofrin-II®

Samir A. Ross, Balawant S. Joshi, Haridutt K. Desai, S. William Pelletier, M. Gary Newton, Xiaolin Zhang and **John K. Snyder**	9585	Delatisine, a novel diterpenoid alkaloid from *Delphinium elatum* L.
Edward C. Taylor and **Denis M. Sobieray**	9599	'Bicyclobenzodiazepinones' from 3-oxo-1,2-diazetidinium hydroxide, inner salts
Taïcir Ben Ayed, Hassen Amri and **Mohamed Moncef El Gaied**	9621	Addition of bromine to β'-(functional alkyl) α,β-unsaturated esters; stereoselective synthesis of β-haloderivatives
C. Berrier, B. Bonnaud, J. F. Patoiseau et **D. Bigg**	9629	Régio- et stéréo-réactivité d'une lactone dissymétrique. Détermination de structure par effets nucléaires Overhauser et modélisation moléculaire
Jürgen Wagner and **Pierre Vogel**	9641	Total, asymmetric synthesis of hexoses and azasugars branched at C(5)
Christian Sund, Peter Agback and **Jyoti Chattopadhyaya**	9659	Synthesis of tetrameric cyclic branched-RNA (lariat) modelling the introns of group II and nuclear pre-mRNA processing reaction (Splicing)
Zhen Xi, Peter Agback, Anders Sandström and **Jyoti Chattopadhyaya**	9675	Synthesis of furo[2,3-*c*]pyran-β-D-nucleosides by radical-cyclization and their conformational analysis by 500 MHz ^{1}H-NMR spectroscopy
Mikael Bergdahl, Martin Nilsson, Thomas Olsson and **Kaye Stern**	9691	Highly diastereoselective additions of organocopper reagents to 2-*exo*-bornyl crotonates
Ronald Grigg, Vijayaratnam Santhakumar, Visuvanathar Sridharan, Paul Stevenson, Andrew Teasdale, Mark Thornton-Pett and **Tanachat Worakun**	9703	The synthesis of bridged-ring carbo- and hetero-cycles via palladium catalysed regiospecific cyclisation reactions
Hari Babu Mereyala and **G. Venugopal Reddy**	9721	Directed, iterative, stereoselective synthesis of oligosaccharides by use of suitably 2-*O*-substituted 2-pyridyl 1-thioglycopyranosides on activation by methyl iodide
	I	Instructions to Contributors

NUMBER 47

	i	Contents in Softstrip format
	iii	Contributors to this issue
	v	Graphical Abstracts
Dennis W. McCullough, M. Bhupathy, Elvio Piccolino and **Theodore Cohen**	9727	Highly efficient terpenoid pheromone syntheses via regio- and stereocontrolled processing of allyllithiums generated by reductive lithiation of allyl phenyl thioethers
Steven Allison, Steven J. Burks and **Richard T. Taylor**	9737	Total syntheses of microminutin and other coumarins through the key intermediate isomurralonginol

Michael T. Davies-Coleman and **D. John Faulkner**	9743	New diterpenoic acid glycerides from the antarctic nudibranch *Austrodoris kerguelensis*
Xin-ping Fang, Jon E. Anderson, Ching-jer Chang and **Jerry L. McLaughlin**	9751	Three new bioactive styryllactones from *Goniothalamus giganteus* (Annonaceae)
Young-Seok Byun and **D. A. Lightner**	9759	Long-range exciton coupling from dipyrrinone chromophores
Tsuneo Sato, Yoshiyuki Wakahara, Junzo Otera and **Hitosi Nozaki**	9773	Organotin triflate as practical catalyst for Michael addition of enol silyl ethers
Wolfgang Holzer	9783	On the application of NOE difference spectroscopy for spectral and structural assignments with substituted 1,2,3-triazoles
Katja Frischmuth, Emmanuelle Samson, Angelika Kranz, Peter Welzel, Heike Meuer and **William S. Sheldrick**	9793	Routes to derivatives of strigol (the witchweed germination factor) modified in the 5-position
Florine Cavelier-Frontin, Robert Jacquier, Joseph Paladino and **Jean Verducci**	9807	N-Bis-silylation of α-amino acids: 'benzostabases' as amino protecting group
Laurent Ettouati, Alain Ahond, Christiane Poupat et **Pierre Potier**	9823	Première hémisynthèse d'un composé de type taxane porteur d'un groupement oxétane en 4(20),5
Edward E. Nifantyev, Mikhail K. Gratchev, Sergey Yu. Burmistrov, Larisa K. Vasyanina, Mikhail Yu. Antipin and **Yuri T. Struchkov**	9839	Nature of acid-catalyzed alcoholysis of amides of trivalent-phosphorus acids
N. Iranpoor, I. Mohammadpour Baltork and **F. Shiriny Zardaloo**	9861	Ceric ammonium nitrate, an efficient catalyst for mild and selective opening of epoxides in the presence of water thiols and acetic acid
Paul Lloyd-Williams, Margarida Gairí, Fernando Albericio and **Ernest Giralt**	9867	Convergent solid-phase peptide synthesis—X. Synthesis and purification of protected peptide fragments using the photolabile Nbb-resin
Jack E. Baldwin, Robert M. Adlington, Nicholas P. Crouch, Christopher J. Schofield, Nicholas J. Turner and **Robin T. Aplin**	9881	Cephalosporin biosynthesis: a branched pathway sensitive to an isotope effect
Derek J. Chadwick and **David S. Ennis**	9901	Directed metallation studies on 2-(2-heteroaryl)imidazolines: synthesis of some 2,3-disubstituted thiophenes and furans
Jan-Eric Berg, Aatto Laaksonen and **Inger Wahlberg**	9915	Conformational analysis of a 7,8-epoxycembranoid
Roderick W. Bates, Rosalina Fernández-Moro and **Steven V. Ley**	9929	The use of π-allyltricarbonyliron lactone complexes in the synthesis of the β-lactone esterase inhibitor (−)-valilactone
Philip Ashworth, Shiddappa L. Belagali, Sharon Casson, Anna Marczak and **Philip Kocieński**	9939	A method for the chromatographic resolution of tetrahydropyran-2-ones

Setsuya Ohba and **Johan F. J. Engbersen** 9947 Synthesis of novel amphiphilic diacetylenes with amino or ammonium functionality

I Instructions to Contributors

NUMBER 48

i Announcement

iii Contents in Softstrip format

v Contributors to this issue

vii Graphical Abstracts

TETRAHEDRON REPORT NUMBER 303

Robert R. Ruffolo, Jr. 9953 Chirality in α- and β-adrenoceptor agonists and antagonists

---

Richard J. Friary and **John H. Schwerdt** 9981 Oxidative cleavage of a tricyclic pyridone to a bicyclic lactam-dione

Y. D. Vankar, P. S. Vankar, M. Behrendt and **R. R. Schmidt** 9985 Synthesis of β-O-glycosides using enol ether and imidate derived leaving groups. Emphasis on the use of nitriles as a solvent

Marie-V. Baud, Claude Chavis, Marc Lucas and **Jean-L. Imbach** 9993 $SnCl_4$ versus $TiCl_4$-mediated coupling between N-6-benzoyladenine and perbenzoylated 2-deoxypyranose: application to the synthesis of certain homochiral acyclo and carboacyclonucleosides

J. Yves Laronze, Rachida El Boukili, Dominique Patigny, Seloua Dridi, Dominique Cartier and **Jean Lévy** 10003 The rearrangement of some cyclopentanone-aryloximes: synthesis of (±)-aplysin,(±)-filiformin and of their debromo analogues

René Baudouy et **Marie-Rose Sancho** 10015 Synthèse stéréosélective de la phéromone sexuelle 'd'Aonidiella Citrina' le (3*S*,5*E*)-(−)-3,9-diméthyle-6-isopropyle déca-5,8-diene-1-yle acétate

M. L. García, J. Pascual, L. Borràs, J. A. Andreu, E. Fos, D. Mauleón, G. Carganico and **F. Arcamone** 10023 Synthesis of new ether glycerophospholipids structurally related to modulator

M. Carmen Carreño, Esteban Domínguez, José L. García Ruano, Concepción Pedregal and **Jesús H. Rodríguez** 10035 Synthesis and hydride reductions of chiral cyclic β-iminosulfoxides

Béla Rezessy, Lajos Toldy, Gyula Horváth and **Pál Sohár** 10045 Reaction of aminothiazole-oximetosylates with thiols

Sylvia J. Allcock, Thomas L. Gilchrist, Stephen J. Shuttleworth and **Frank D. King** 10053 Intramolecular and intermolecular Diels-Alder reactions of acylhydrazones derived from methacrolein and ethylacrolein

Lieven Meerpoel, Suzanne M. Toppet, Frans Compernolle and **Georges J. Hoornaert**	10065	An approach to acyclo-1-deazathymidine C-nucleosides via 3,5-dichloro-6-methyl-2*H*-1,4-oxazin-2-one
Graham J. Bodwell, Stephen G. Davies and **Andrew A. Mortlock**	10077	A study of the aldol reaction between enolates derived from the iron acetyl complex $[(\eta^5\text{-}C_5H_5)Fe(CO)(PPh_3)COCH_3]$ and 2,3-O-isopropylidene-D-glyceraldehyde
Irma Panfil, Czeslaw Belzecki, Zofia Urbanczyk-Lipkowska and **Marek Chmielewski**	10087	1,3-Dipolar cycloaddition of nitrones to sugar enlactones
Salim Hadad, Bernard S. Green and **Jehoshua Katzhendler**	10095	Selective intracomplex reaction of pendant groups in a purine-pyrimidines base pair
Salvatore Caccamese, Vincenzo Amico, Placido Neri and **Mario Foti**	10101	The structure of laurobtusol, a new rearranged sesquiterpenoid from the Mediterranean red alga *Laurencia obtusa*
Frank G. Riddell and **Stephen J. Tompsett**	10109	The complete assignment of the ^1H and ^{13}C nmr spectra of the alkali metal salts of salinomycin and narasin
W. Russell Bowman, Harry Heaney and **Benjamin M. Jordan**	10119	Oxidation during reductive cyclisations using Bu_3SnH
Peter Y. Malakov, María C. de la Torre, Benjamín Rodríguez and **Georgi Y. Papanov**	10129	Some chemical transformations of the *neo*-clerodane diterpene teubotrin
	I	Instructions to Contributors

TETRAHEDRON: Instructions to Contributors

For full instructions see issue 1 of this volume.

Tetrahedron seeks to publish experimental or theoretical research results of outstanding significance and timeliness in the field of Organic Chemistry and its application to related disciplines, especially bio-organic chemistry. Publications may be in the form of Articles, Reports, or Symposia-in-Print. In order to achieve rapid publication, all contributions to this journal are reproduced directly from the author's typescript.

ARTICLES

Articles for Tetrahedron should describe original research in organic chemistry of high quality and timeliness not previously published. Because of restrictions in the size of the journal, priority will be given to those contributions describing scientific work having as broad appeal as possible to the diverse readership. We ask referees to help in the selection of articles which have this breadth and suggest that papers covering narrower aspects of the field be sent to journals specializing in those areas. It is strongly recommended that articles be written in English.

REPORTS

These are specially commissioned critical reports reviewing research results of topical importance. Such articles, published only in English, are commissioned in appropriate fields by the Editors of Tetrahedron Reports.

SYMPOSIA-IN-PRINT

These comprise collections of original research papers (including experimental sections) covering timely areas of Organic Chemistry. Topics for forthcoming Symposia are announced in the journal from time to time. A Guest Editor will invite authors active in the field to submit papers which are then reviewed and processed for publication by the Guest Editor under the usual refereeing system. Opportunity is also provided for other active investigators to submit contributions. These Symposia are published in English.

PREPARATION OF TYPESCRIPT FOR DIRECT REPRODUCTION

Manuscripts should be typed with 1½ spaces between lines, using a black ribbon on good quality white bond paper. *For papers composed on a word processor, letter quality printers, but not dot matrix printers, should be used.* Xerox or other machine copy typescript may be used if the reproduction is rendered in crisp, clear black and white tones. The title should be in bold, centred on the width of the page at least 2 cm from the top of the page, with the initial letter of each major word capitalized. After two lines of space, the authors' names and addresses should be provided on separate lines. The author or authors to whom correspondence should be addressed by readers of the Journal should be indicated by an asterisk. Authors must include a short abstract in English of approximately three lines typed in single spacing. This should appear immediately after the address and before the commencement of the article. The typing area of page 1, including the title, should be 18.75 cm wide by 24 cm deep. The typing area of all other pages should be extended to cover an area 18.75 cm wide by approximately 26 cm deep (which will fit 8.5 by 11 in paper). Articles should be an even number of pages which should be numbered lightly in pencil.

REFERENCES

References to the literature should follow the format outlined in the Journal of the American Chemical Society.

1. Doe, J. S.; Smith, J.; Roe, P. *J. Am. Chem. Soc.* **1968,** *90,* 8234–8265.

GRAPHICAL ABSTRACTS

Authors are requested to supply a graphical abstract in triplicate in finished, camera-ready form at the time the article is first submitted. These abstracts should aim at presenting the essence of the article in a concise, pictorial form, useful for rapid scanning of the Journal and for the compilation of data bases. Carefully drawn structural formulae are desired which serve to illustrate the theme of the paper. Appropriate text should be incorporated, not to exceed the space limitations (7 × 19.5 cm). In publication, abstracts will be reduced by 25%.

CAMERA-READY REQUIREMENTS. FORMULAS AND TABLES

To maintain a finished, artistic appearance of the journal, authors are asked to use whatever resources are available to them to produce manuscripts of pleasing appearance. Direct reproduction of camera-ready papers requires the author to provide the manuscript in a finished artistic format, making the best possible use of the space within an even number of completely utilized pages. Manuscripts may be cut and pasted, with tables and formulas placed appropriately within the manuscript. Formulas and other graphical material should be drawn with special care and pasted up exactly as the page is to appear in the journal, generally avoiding freehand illustration. The size of formulas may vary according to the nature of the illustrations but these should neither be overpowering nor so small that they are hard to read after reduction by a factor of 25%. *Regional Editors may return otherwise acceptable papers for modification if the quality of the figures or structural formulas is poor or the overall layout is carelessly composed.*

If authors have problems in the preparation of their manuscripts such as allocation of space, reproduction of formulas, charts or tables, they may contact members of the Board of Editors for advice.

HAZARDOUS COMPOUNDS

Authors are encouraged to draw attention to hazards by adding the word CAUTION followed by a brief descriptive phrase and literature reference if appropriate.

TRADEMARKS

Authors are required to acknowledge trademark protection in the standard fashion, e.g. Selectride®, Exaltolide® (although not for words which have entered general usage: pyrex, etc.).

ORGANIC CHEMISTRY NOMENCLATURE

Authors will find the following a useful reference book for recommended nomenclature: *IUPAC Nomenclature of Organic Chemistry* ('The Blue Book'), edited by J. Rigaudy and S. P. Klesney, Pergamon Press, Oxford, 1979.

REFEREEING PROCESS

All papers are submitted to referees who advise the Editors on the matter of acceptance in accordance with the high standards required, on the understanding that the subject matter has not been previously published. Authors must accept full responsibility for the factual accuracy of the data presented and should obtain any necessary authority to publish. Referees' names are not disclosed but their views are forwarded by the Editors to the authors for consideration. Papers are accepted subject to editorial amendment as necessary. Authors are encouraged to suggest names of several experts in the field when papers are first submitted or at any time in the evaluation process.

REPRINTS

Any reprints required (above the 100 free) for directly reproduced manuscripts must be indicated on submission.

LANGUAGE OF PUBLICATION

The Board of Editors strongly recommends that Tetrahedron Papers be in English, but papers in French and German will be considered. Tetrahedron Reports and Symposia papers must be in English.

X-RAY CRYSTALLOGRAPHIC DATA

Manuscripts reporting X-ray Crystallographic data must be accompanied by lists of refined coordinates and bond distances with esd's for deposition at the Cambridge Crystallographic Data Centre [see Notice to Authors, *Tetrahedron* **40**(2), ii (1984)].

CHARACTERIZATION OF NEW COMPOUNDS

All new compounds should be fully characterized with relevant spectroscopic data. Microanalytical data should be included wherever possible.

MAILING OF MANUSCRIPTS

Tetrahedron papers

Manuscripts and Graphical Abstracts should be sent in triplicate directly to the Honorary Regional Editor for the particular area as given below. Papers sent to other Regional Editors will be forwarded for refereeing to the appropriate Editor as determined by the address of the author to whom the correspondence should be sent (who should be indicated by an asterisk).

(1) **Austria, East and West Germany and Switzerland and all papers in the German language,** Prof. W. Steglich, Institut für Organische Chemie der Universität München, Karlstr. 23, D-8000 München 2, Germany. **Fax: 49 89 5902483**

(2) **Papers from the French-speaking area, in French or in English,** Prof. L. Ghosez, Laboratoire de Chimie Organique de Synthèse, Université Catholique de Louvain, Place L. Pasteur 1, B-1348 Louvain-la-Neuve, Belgium. **Fax: 10 47 41 68**

(3) **China,** Professor Lin Guo-Qiang, Shanghai Institute of Organic Chemistry, Academia Sinica, 345 Lingling Lu, 200032 Shanghai, China (manuscripts from Taiwan may be sent to Professor Lin, or to the usual Editors in Japan, at the choice of the authors).

(4) **Papers from the Russian-speaking area,** Prof. N. K. Kochetkov, N. D. Zelinsky Institute of Organic Chemistry, Academy of Sciences, Leninsky Prospekt 47, Moscow B-334, Russia. **Fax: 7 095 13 55328**

(5) **Japan, China including Taiwan, North and South Korea, Hong Kong and Macao,** Prof. T. Shioiri, Faculty of Pharmaceutical Sciences, Nagoya City University, Tanabe-dori, Mizuho-ku, Nagoya 467, Japan. **Fax: 81 52 834 4172**

(6) **The Americas,** Prof. A. R. Katritzky, FRS, Dept. of Chemistry, University of Florida, Gainesville, FL 32611, USA. **Fax: 1 904 392 9199**

(7) **All regions other than those specified under (1)–(6) above,** Prof. A. McKillop, University of East Anglia, School of Chemical Sciences, University Plain, Norwich NR4 7TJ, England. **Fax: 144 603 507773**

Tetrahedron Symposia-in-Print

To the Guest Editor as announced for the particular symposium.

Tetrahedron Reports

The Americas, Prof. A. Nickon, Dept. of Chemistry, The Johns Hopkins University, Baltimore, MD 21218, USA. **Fax: 1 301 338 8420**

Other locations, Prof. W. D. Ollis, FRS, Department of Chemistry, University of Sheffield, S3 7HF England. **Fax: 1 44 742 668318**

Note: The contents of papers shall be the sole responsibility of the author(s) and publication shall not imply the concurrence of Editors or Publisher.

Did you know that if you are a contributor to any of Pergamon's Journals you are entitled to

25%

Discount on most Pergamon Books?

Contact your nearest Pergamon office in order to obtain a subject catalogue

Pergamon Press

Pergamon Press Ltd, Headington Hill Hall, Oxford, OX3 0BW, UK
Pergamon Press Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

cor017/p8

SEND FOR A FREE SAMPLE COPY OF...

POLYHEDRON

THE INTERNATIONAL JOURNAL FOR INORGANIC AND ORGANOMETALLIC CHEMISTRY

Editor-in-Chief: **SIR GEOFFREY WILKINSON,** *University of London, The London Hospital Medical School, 3rd Floor Alexandra Wing, Turner Street, London E1 2AD*
Executive Editor: **D C BRADLEY,** *Queen Mary and Westfield College, University of London, Mile End Road, London E1 4NS, UK*
Executive Editor for USA & Canada: **M H CHISHOLM,** *Department of Chemistry, Indiana University, Bloomington, IN 47405, USA*

Polyhedron publishes original, fundamental, experimental and theoretical work of the highest quality in the major areas of inorganic and organometallic chemistry.
Subjects covered include: synthetic and reaction chemistry, kinetics and mechanisms of reactions, bioinorganic chemistry, photochemistry and the use of metal and organometallic compounds in stoichiometric and catalytic synthesis of organic compounds.
Contributions take the form of full papers and preliminary communications to the Editor. In addition, *Polyhedron* publishes specially commissioned review articles (Polyhedron Reports) and collections of original research papers (Polyhedron Symposia-in-Print) of appropriate timeliness.

A Selection of Papers
D J CLEVETTE & C ORVIG (Canada), Comparison of ligands of differing denticity and basicity for the *in vivo* chelation of aluminium and gallium.
G PARKIN & J E BERCAW (USA), Halide, hydride, alkyl, oxo and related derivatives of bis(pentamethylcyclopentadienyl)tungsten(IV).
K DEHNICKE & J STRÄHLE (Germany), Phosphorane iminato complexes of transition metals.
F BASOLO (USA), Kinetics and mechanisms of CO substitution of metal carbonyls.
S U KOSCHMIEDER & G WILKINSON (UK), Homoleptic and related aryls of transition metals.
FU-MIN SU, J C BRYAN, SOONHEE JANG & J M MAYER (USA), Tungsten complexes with strong π-donor and π–acceptor ligands: $W(E)Cl_2(L)(PR_3)_2$(E=O, NR,S, and L=CO, CNR, CH_2=CHR and O=CHMe).
R NOMURA, S FUJII, K KANAYA & H MATSUDA (Japan), Oxygen- or sulphur-containing organoindium compounds for precursors of indium oxide and sulphide thin films.

Indexed/Abstracted in: *Curr Cont ASCA / Phy Chem & Earth Sci / SCISEARCH Data / Sci Cit Ind, Chemical Abstracts Service, BIOSIS Database, INSPEC Data*

(00218)
Subscription Information
1992: Volume 11 (24 issues)

Annual subscription (1992)	**£1125.00**	**US$2040.00**
Two-year rate (1992/93)	**£2137.50**	**US$3876.00**

ISSN: 0277-5387

PERGAMON PRESS

Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Sterling prices quoted are definitive. US dollar prices are quoted for convenience only and are subject to exchange rate fluctuation. Prices shown include postage and insurance and apply worldwide except in Japan.

SEND FOR A FREE SAMPLE COPY OF...

BIOORGANIC & MEDICINAL CHEMISTRY LETTERS

A TETRAHEDRON PUBLICATION FOR RAPID DISSEMINATION OF PRELIMINARY COMMUNICATIONS ON ALL ASPECTS OF BIOORGANIC CHEMISTRY, MEDICINAL CHEMISTRY AND RELATED DISCIPLINES

Editor-in-Chief: **DALE L BOGER**, *Department of Chemistry, The Scripps Research Institute, 10666 North Torrey Pines Road, La Jolla, California 92037, USA*

Bioorganic & Medicinal Chemistry Letters presents preliminary experimental or theoretical research results of outstanding significance and timeliness on all aspects of science at the interface of chemistry and biology and on major advances in drug design and development. The journal publishes preliminary communications in camera-ready form in much the same format as *Tetrahedron Letters* and strives to provide maximum dissemination to a large, international audience, the outstanding advances in bioorganic chemistry, medicinal chemistry and related disciplines.

A Selection of Papers

J E BALDWIN, T D W CLARIDGE, A E DEROME, C J SCHOFIELD & B D SMITH (UK), ^{11}B NMR studies of an aryl boronic acid bound to chymotrypsin and subtilisin.

B M TADAYONI & J REBEK Jr (USA), Intramolecular nucleophilic displacement reactions at carboxyl oxygen.

T A SHEPHERD, L N JUNGHEIM, D L MEYER & J J STARLING (USA), A novel targeted delivery system utilizing a cephalosporin-oncolytic prodrug activated by an antibody β-lactamase conjugate for the treatment of cancer.

M PETITOU, G JAURAND, M DERRIEN, P DUCHAUSSOY & J CHOAY (France), A new, highly potent, heparin-like pentasaccharide fragment containing a glucose residue instead of a glucosamine.

E M GORDON, J PLUSCEC & C P CIOSEK Jr (USA), Synthesis of substrate-based inhibitors of HMG CoA reductase—II.

D C HORWELL, G RATCLIFFE & E ROBERTS (UK), Stabilities of tryptophanylphenethylamides to acid and alkaline conditions.

M W ALBERS, J LIU, S E WILKINSON, J WADSWORTH, D PEREZ-SALA, R R RANDO, J S NIXON & S L SCHREIBER (USA), FKBP, thought to be identical to PKCI-2, does not inhibit protein kinase C.

Indexed/Abstracted: *Chemical Abstracts, Current Contents*

(00972)

Subscription Information

1992: Volume 2 (12 issues)

Annual subscription (1992)	**£325.00**	**US$590.00**
Two-year rate (1992/93)	**£617.50**	**US$1121.00**

ISSN: 0960-894X

PERGAMON PRESS

Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Sterling prices quoted are definitive. US dollar prices are quoted for convenience only and are subject to exchange rate fluctuation. Prices shown include postage and insurance and apply worldwide except in Japan.

Receive Regular News of Pergamon's Publications

Pergamon mails information on new and existing publications regularly.
If you would like to be added to the mailing list please send us your name and full mailing address, indicating your fields of interest:

ENGINEERING
Energy Sources & Technology, Civil & Structural Engineering, Mechanical Engineering, Electrical & Electronic Engineering, Systems & Control Engineering, Aeronautical & Aerospace Technology, Materials Technology, Chemical Engineering

LIFE SCIENCES & MEDICINE
Biological Sciences (including biochemistry & molecular biology), Agriculture, Veterinary Medicine, Immunology, Cancer Research, Pharmacology, Neuroscience, Vision Science, Clinical Medicine

PHYSICAL SCIENCES
Computer Science, Physics, Chemistry, Mathematics, Earth Science, Environmental Science, Materials Science, Space & Planetary Sciences

SOCIAL SCIENCE & HUMANITIES
Jewish Studies, Sociology, Women's Studies, Psychology, Education, Political Science, Geography, Economics, Management & Business, Linguistics, Information Science, Librarianship

Pergamon Press Ltd
Headington Hill Hall, Oxford OX3 0BW, UK

Pergamon Press, Inc.
660 White Plains Road, Tarrytown, NY 10591-5153, USA

SEND FOR A FREE SAMPLE COPY OF...

CARBON

An International Journal Sponsored by the American Carbon Society

Editor-in-Chief: **P A THROWER,** *Department of Materials Science and Engineering, The Pennsylvania State University, University Park, PA 16802, USA*

This international journal provides a source and exchange of information on original research on the physics and chemistry, as well as the scientific and technological aspects of specific materials ranging from organic crystals and polymers through chars and carbons to graphite. The selected materials consist of those organic substances which are related to aromatic or tetrahedrally bonded carbonaceous solids, or which can be transformed into them by heat treatment or other means. Articles are published in English, German and French.
The journal encourages the submission of papers on thin diamond films and buckminster fullerenes.

A Selection of Papers
E M SUUBERG, M WOJITOWICZ & J M CALO (USA), Some aspects of the thermal annealing process in a phenolformaldehyde resin char.
J N ROUZAUD & A OBERLIN (France), Structure, mixture, and optical properties of anthracene and sacharose-based carbons.
D D EDIE & M G DUNHAM (USA), Melt spinning pitch-based carbon fibers.
J AYACHE, A OBERLIN & M INAGAKI (France), Mechanism of carbonization under pressure.
X BOURRAT, E J ROCHE & J G LAVIN (USA), Structure of mesophase pitch fibers.
C JONES & E SAMMANN (USA), The effect of low power plasmas on carbon fibre surfaces: a comparison between low and high modulus pan based fibres with pitch based carbon fibres.

Indexed/Abstracted in: *Current Contents, CABS, Engng Ind Monthly & Author Index, PASCAL-CNRS Database, Chemical Abstracts, Edi Metals Abs, Metal Abstr*

(00258)
Subscription Information
1992: Volume 30 (8 issues)

Annual subscription (1992)	**£490.00**	**US$890.00**
Two-year rate (1992/93)	**£931.00**	**US$1691.00**

ISSN: 0008-6223

PERGAMON PRESS

Pergamon Press Ltd, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. Sterling prices quoted are definitive. US dollar prices are quoted for convenience only and are subject to exchange rate fluctuation. Prices include postage and insurance and apply worldwide except in Japan.

ADVERTISING

Concentrate your efforts
with
Pergamon Journals

* Advertising can be a hit and miss affair, but focussed at the right market you can achieve the results you are after, to an international audience of end-users and opinion formers.

* Research publications are referred to time and time again, giving you repeated advertising exposure.

* We publish many learned society journals reaching members which no other journal can.

* Pergamon's journals are focussed towards specific markets which are at the cutting edge of scientific, medical, technical and industrial innovations. Each is unique and addresses a highly qualified, definable audience.

If you would like further information on advertising with Pergamon, please contact the appropriate office below:

Europe, Far East and Australasia

Advertising Sales Manager
Advertising Department
Pergamon Press Ltd
Headington Hill Hall
Oxford, OX3 0BW
UK

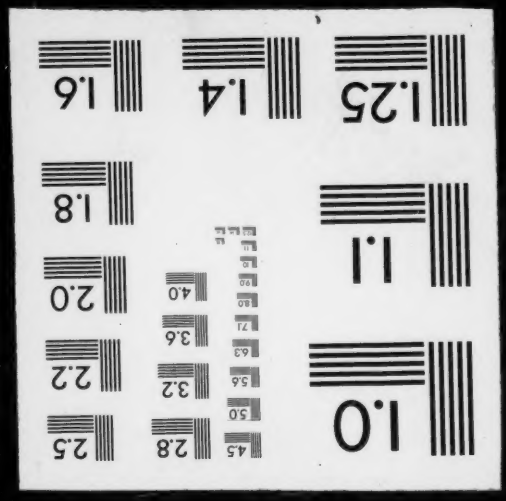
Tel: (+44) 0865 794141
Fax: (+44) 0865 743952

USA

Advertising Sales Manager
Advertising Department
Pergamon Press Inc
660 White Plains Road
Tarrytown
New York, NY 10591-5153
USA

Tel: (+1) 914 524 9200
Fax: (+1) 914 333 2444

PERGAMON PRESS
OXFORD • NEW YORK • SEOUL • TOKYO


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
45
50
56
63
71
80
90